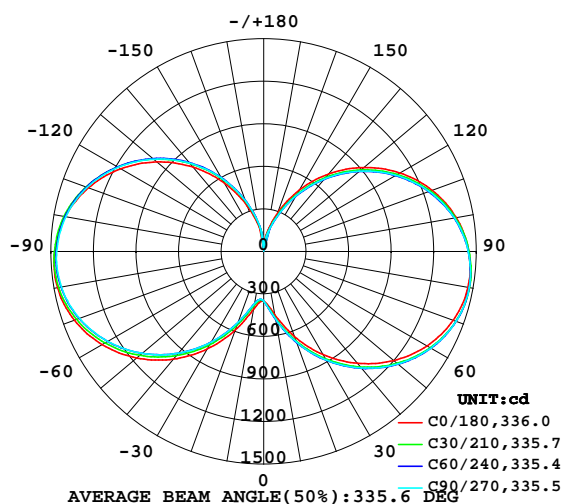


**LUMINAIRE PHOTOMETRIC TEST REPORT**

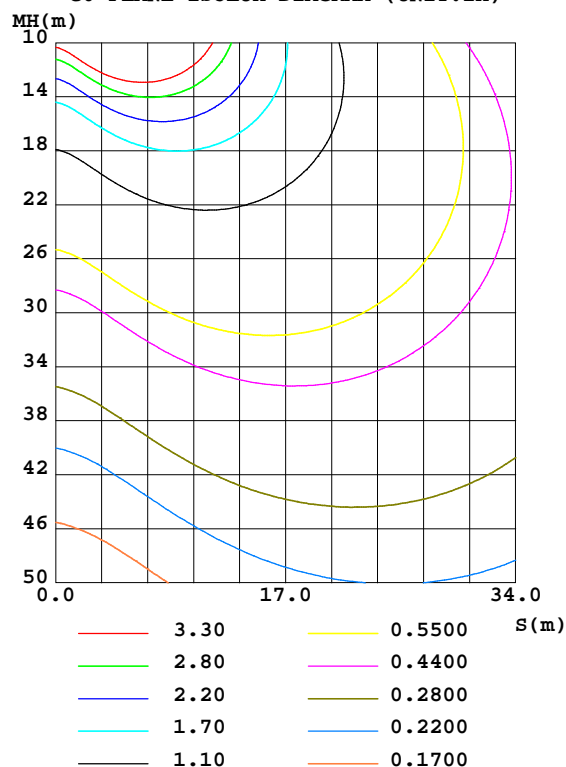
Test:U:219.6V I:0.4574A P:96.38W PF:0.9594 Lamp Flux:14033.2x1 lm		
NAME: OB230	TYPE:LED	WEIGHT:
SPEC.:100W-3000K	DIM.:	SERIAL No.:
MFR.: ICEPIPE	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 145.60 lm/W			
MODEL	OB230	Imax(cd)	1485	S/MH(C0/180)	3.25
NOMINAL POWER(W)	100	LOR(%)	100.0	S/MH(C90/270)	3.22
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	14033	$\eta$ UP,DN(C0-180)	22.3,27.6
NOMINAL FLUX(lm)	14033.2	CIE CLASS	DIFFUSE	$\eta$ UP,DN(C180-360)	23.8,26.3
LAMPS INSIDE	1	$\eta$ up(%)	46.1	CIBSE SHR NOM	2.00
TEST VOLTAGE(V)	220	$\eta$ down(%)	53.9	CIBSE SHR MAX	0.00

**LUMINOUS INTENSITY DISTRIBUTION DIAGRAM**



**C0 PLANE ISOLUX DIAGRAM (UNIT:lx)**



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:KAR  
Test Date:11 Mar 2020

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.351  
Humidity:65.0%  
Test Distance:8.100m [K=1.0000]  
Remarks: OB230-100W-3000K

**ZONAL FLUX DIAGRAM**

**ZONAL FLUX DIAGRAM:**

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum,lamp
10	451.9	481.7	482.9	453.4	413.3	377.8	373.2	404.2	0- 10	37.30	37.30	0.27,0.27
20	639.4	679.6	681.5	645.0	590.2	542.3	535.1	577.7	10- 20	149.1	186.4	1.33,1.33
30	840.1	882.1	884.3	849.0	794.0	746.3	737.9	779.2	20- 30	332.7	519.1	3.7,3.7
40	1030	1071	1072	1042	991.8	947.7	937.3	974.4	30- 40	575.7	1095	7.8,7.8
50	1197	1234	1235	1212	1169	1128	1118	1149	40- 50	851.2	1946	13.9,13.9
60	1331	1361	1363	1348	1315	1281	1270	1294	50- 60	1126	3072	21.9,21.9
70	1422	1444	1444	1440	1420	1394	1382	1398	60- 70	1364	4436	31.6,31.6
80	1463	1474	1472	1480	1476	1460	1448	1453	70- 80	1531	5966	42.5,42.5
90	1446	1445	1443	1462	1474	1470	1460	1453	80- 90	1600	7566	53.9,53.9
100	1380	1368	1366	1394	1420	1427	1417	1402	90-100	1561	9127	65,65
110	1264	1244	1241	1275	1316	1333	1325	1300	100-110	1424	10552	75.2,75.2
120	1108	1079	1075	1116	1166	1193	1187	1155	110-120	1206	11758	83.8,83.8
130	921.8	885.7	881.8	925.8	983.6	1018	1014	975.7	120-130	939.4	12698	90.5,90.5
140	714.3	673.0	669.5	715.5	777.4	816.4	814.4	773.1	130-140	659.8	13357	95.2,95.2
150	497.5	453.2	449.6	496.2	558.6	600.2	599.3	556.9	140-150	402.2	13760	98.1,98.1
160	290.5	249.9	246.1	288.4	343.2	381.3	381.9	344.1	150-160	197.0	13957	99.5,99.5
170	134.4	108.3	106.9	133.5	164.6	191.3	193.7	165.5	160-170	66.94	14024	99.9,99.9
180	21.07	21.09	21.28	21.41	21.07	21.09	21.28	21.42	170-180	9.628	14033	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

**Conical surface Flux(90deg): 1485.2 lm**

**%lum = 10.6%**

**%lamp = 10.6%**

**Conical surface Flux(120deg): 3071.9 lm**

**%lum = 21.9%**

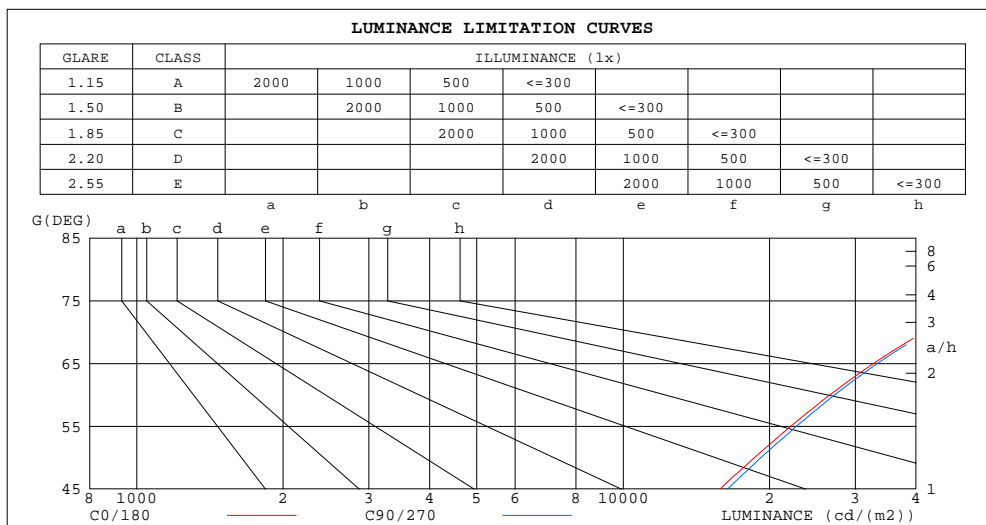
**%lamp = 21.9%**

**C Range: 0 - 360DEG**  
**C Interval: 15.0DEG**  
**Test Speed: HIGH**  
**Temperature:25.3DEG**  
**Operators:KAR**  
**Test Date:11 Mar 2020**

**$\gamma$  Range: 0 - 180DEG**  
 **$\gamma$  Interval: 1.0DEG**  
**Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.351**  
**Humidity:65.0%**  
**Test Distance:8.100m [K=1.0000]**  
**Remarks: OB230-100W-3000K**

**LUMINANCE LIMITATION CURVES**

Test:U:219.6V I:0.4574A P:96.38W PF:0.9594 Lamp Flux:14033.2x1 lm		
NAME: OB230	TYPE:LED	WEIGHT:
SPEC.:100W-3000K	DIM.:	SERIAL No.:
MFR.: ICEPIPE	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	167592	167891
80	84267	84763
75	56026	56630
70	41576	42212
65	32710	33314
60	26626	27252
55	22132	22730
50	18623	19208
45	15802	16376

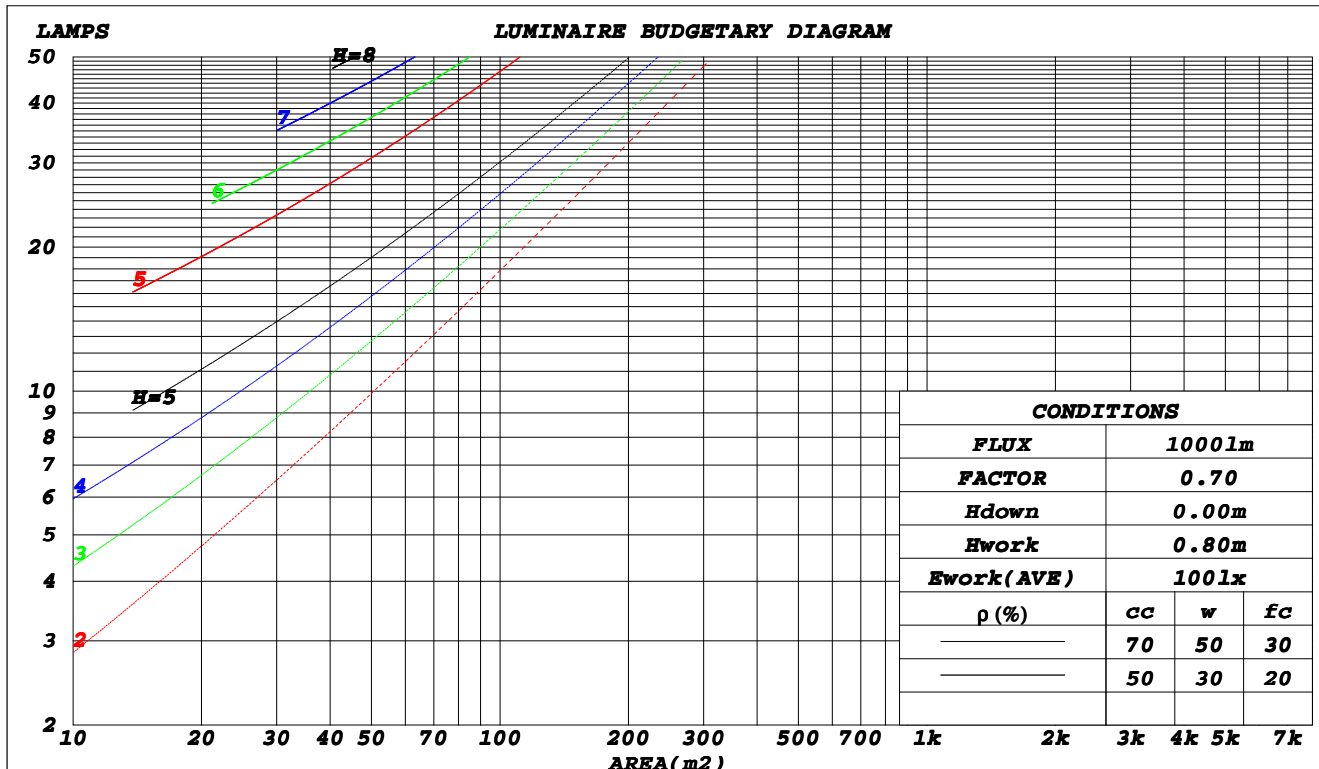
**C Range: 0 - 360DEG**  
**C Interval: 15.0DEG**  
**Test Speed: HIGH**  
**Temperature:25.3DEG**  
**Operators:KAR**  
**Test Date:11 Mar 2020**

**γ Range: 0 - 180DEG**  
**γ Interval: 1.0DEG**  
**Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.351**  
**Humidity:65.0%**  
**Test Distance:8.100m [K=1.0000]**  
**Remarks: OB230-100W-3000K**

**CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM**

Test:U:219.6V I:0.4574A P:96.38W PF:0.9594 Lamp Flux:14033.2x1 lm		
NAME: OB230	TYPE:LED	WEIGHT:
SPEC.:100W-3000K	DIM.:	SERIAL No.:
MFR.: ICEPIPE	SUR.:	Shielding Angle:

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	20%			20%			20%			20%			20%			0
RCR	Coefficients of Utilization(CU)															
0.0	1.08	1.08	1.08	1.00	1.00	1.00	.86	.86	.86	.72	.72	.72	.60	.60	.60	.54
1.0	.86	.80	.74	.79	.74	.69	.66	.62	.58	.54	.51	.48	.44	.41	.39	.33
2.0	.72	.63	.56	.66	.58	.52	.55	.49	.44	.45	.40	.36	.35	.31	.28	.23
3.0	.61	.52	.44	.56	.48	.41	.46	.40	.34	.38	.32	.28	.29	.25	.22	.17
4.0	.53	.43	.36	.49	.40	.33	.40	.33	.27	.32	.27	.22	.25	.21	.17	.13
5.0	.47	.37	.29	.43	.34	.27	.35	.28	.23	.28	.23	.18	.22	.18	.14	.10
6.0	.41	.32	.25	.38	.29	.23	.31	.24	.19	.25	.20	.15	.19	.15	.12	.08
7.0	.37	.28	.21	.34	.25	.19	.28	.21	.16	.23	.17	.13	.18	.13	.10	.07
8.0	.33	.24	.18	.30	.22	.17	.25	.19	.14	.20	.15	.11	.16	.12	.08	.06
9.0	.30	.22	.16	.28	.20	.15	.23	.17	.12	.19	.13	.10	.15	.10	.07	.05
10.0	.27	.19	.14	.25	.18	.13	.21	.15	.11	.17	.12	.09	.13	.09	.06	.04



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:KAR  
Test Date:11 Mar 2020

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.351  
Humidity:65.0%  
Test Distance:8.100m [K=1.0000]  
Remarks: OB230-100W-3000K

**WEC AND CCEC**

Test:U:219.6V I:0.4574A P:96.38W PF:0.9594 Lamp Flux:14033.2x1 lm		
NAME: OB230	TYPE:LED	WEIGHT:
SPEC.:100W-3000K	DIM.:	SERIAL No.:
MFR.: ICEPIPE	SUR.:	Shielding Angle:

$\rho_{cc}$	80%			70%			50%			30%			10%			0	
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
$\rho_{fc}$	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.441	.251	.079	.420	.240	.076	.380	.218	.070	.343	.198	.064	.309	.179	.058		
2.0	.363	.199	.061	.344	.189	.058	.307	.171	.053	.274	.154	.048	.242	.137	.043		
3.0	.314	.167	.050	.296	.159	.048	.263	.143	.043	.232	.127	.039	.203	.113	.035		
4.0	.278	.144	.042	.262	.137	.040	.231	.122	.037	.203	.109	.033	.176	.096	.029		
5.0	.249	.127	.037	.235	.120	.035	.206	.107	.032	.180	.095	.028	.156	.083	.025		
6.0	.226	.114	.032	.213	.107	.031	.187	.096	.028	.163	.084	.025	.140	.074	.022		
7.0	.207	.103	.029	.195	.097	.028	.171	.086	.025	.148	.076	.022	.127	.066	.019		
8.0	.191	.093	.026	.179	.088	.025	.157	.079	.022	.136	.069	.020	.117	.060	.017		
9.0	.177	.086	.024	.166	.081	.023	.146	.072	.020	.126	.063	.018	.108	.055	.016		
10.0	.165	.079	.022	.155	.075	.021	.136	.067	.019	.118	.058	.017	.100	.050	.014		

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.542	.542	.542	.463	.463	.463	.316	.316	.316	.181	.181	.181	.058	.058	.058	
1.0	.543	.509	.478	.465	.437	.411	.318	.301	.285	.183	.174	.165	.059	.056	.054	
2.0	.538	.488	.446	.461	.420	.385	.316	.291	.269	.182	.169	.158	.058	.055	.051	
3.0	.531	.473	.426	.456	.408	.370	.313	.283	.259	.181	.166	.153	.058	.054	.050	
4.0	.524	.462	.414	.449	.399	.360	.309	.278	.253	.179	.163	.150	.058	.053	.049	
5.0	.516	.453	.406	.443	.392	.353	.305	.274	.249	.177	.161	.148	.057	.052	.049	
6.0	.509	.445	.400	.437	.386	.348	.302	.270	.246	.175	.159	.146	.056	.052	.048	
7.0	.502	.439	.395	.432	.381	.344	.298	.267	.244	.173	.157	.145	.056	.051	.048	
8.0	.495	.434	.392	.426	.376	.342	.295	.264	.242	.172	.156	.144	.055	.051	.048	
9.0	.489	.429	.389	.421	.373	.340	.292	.262	.241	.170	.155	.144	.055	.051	.048	
10.0	.483	.425	.387	.416	.369	.338	.289	.260	.240	.168	.154	.143	.055	.050	.048	

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:KAR  
Test Date:11 Mar 2020

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.351  
Humidity:65.0%  
Test Distance:8.100m [K=1.0000]  
Remarks: OB230-100W-3000K

**UGR(Unified Glare Rating) Table**

Test:U:219.6V I:0.4574A P:96.38W PF:0.9594 Lamp Flux:14033.2x1 lm										
NAME: OB230					TYPE:LED			WEIGHT:		
SPEC.:100W-3000K					DIM.:			SERIAL No.:		
MFR.: ICEPIPE					SUR.:			Shielding Angle:		
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise				
x = 2H y = 2H	21.1	22.2	21.9	23.1	24.2	21.2	22.3	22.0	23.2	24.3
3H	24.6	25.6	25.4	26.5	27.7	24.7	25.7	25.5	26.6	27.7
4H	26.5	27.5	27.4	28.4	29.6	26.6	27.6	27.5	28.5	29.7
6H	28.7	29.6	29.6	30.5	31.7	28.7	29.7	29.6	30.6	31.8
8H	29.8	30.8	30.7	31.7	32.9	29.9	30.8	30.8	31.7	32.9
12H	31.2	32.0	32.1	33.0	34.2	31.2	32.1	32.1	33.0	34.2
4H 2H	22.2	23.2	23.1	24.1	25.3	22.3	23.3	23.1	24.2	25.3
3H	25.8	26.7	26.7	27.6	28.8	25.8	26.7	26.7	27.6	28.8
4H	27.8	28.6	28.8	29.6	30.8	27.9	28.7	28.8	29.6	30.8
6H	30.1	30.8	31.0	31.8	33.0	30.1	30.9	31.1	31.8	33.1
8H	31.4	32.0	32.3	33.0	34.2	31.4	32.1	32.3	33.0	34.3
12H	32.8	33.4	33.7	34.4	35.6	32.8	33.4	33.7	34.4	35.7
8H 4H	28.6	29.3	29.5	30.2	31.5	28.6	29.3	29.6	30.3	31.5
6H	31.1	31.7	32.1	32.7	34.0	31.1	31.7	32.1	32.7	34.0
8H	32.5	33.1	33.5	34.1	35.4	32.6	33.1	33.5	34.1	35.4
12H	34.2	34.6	35.2	35.6	36.9	34.2	34.6	35.2	35.6	37.0
12H 4H	28.8	29.4	29.8	30.4	31.7	28.8	29.5	29.8	30.4	31.7
6H	31.4	32.0	32.4	33.0	34.3	31.5	32.0	32.4	33.0	34.3
8H	33.0	33.4	34.0	34.5	35.8	33.0	33.5	34.0	34.5	35.8
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.1				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.3 / - 0.4					+ 0.3 / - 0.4				

CIE Pub.117 Corrected 14033 lm Total Lamp Luminous Flux.(8log(F/F0) = 9.2)

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:KAR  
Test Date:11 Mar 2020

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.351  
Humidity:65.0%  
Test Distance:8.100m [K=1.0000]  
Remarks: OB230-100W-3000K

**UTILIZATION FACTORS TABLE**

Test:U:219.6V I:0.4574A P:96.38W PF:0.9594 Lamp Flux:14033.2x1 lm		
NAME: OB230	TYPE:LED	WEIGHT:
SPEC.:100W-3000K	DIM.:	SERIAL No.:
MFR.: ICEPIPE	SUR.:	Shielding Angle:

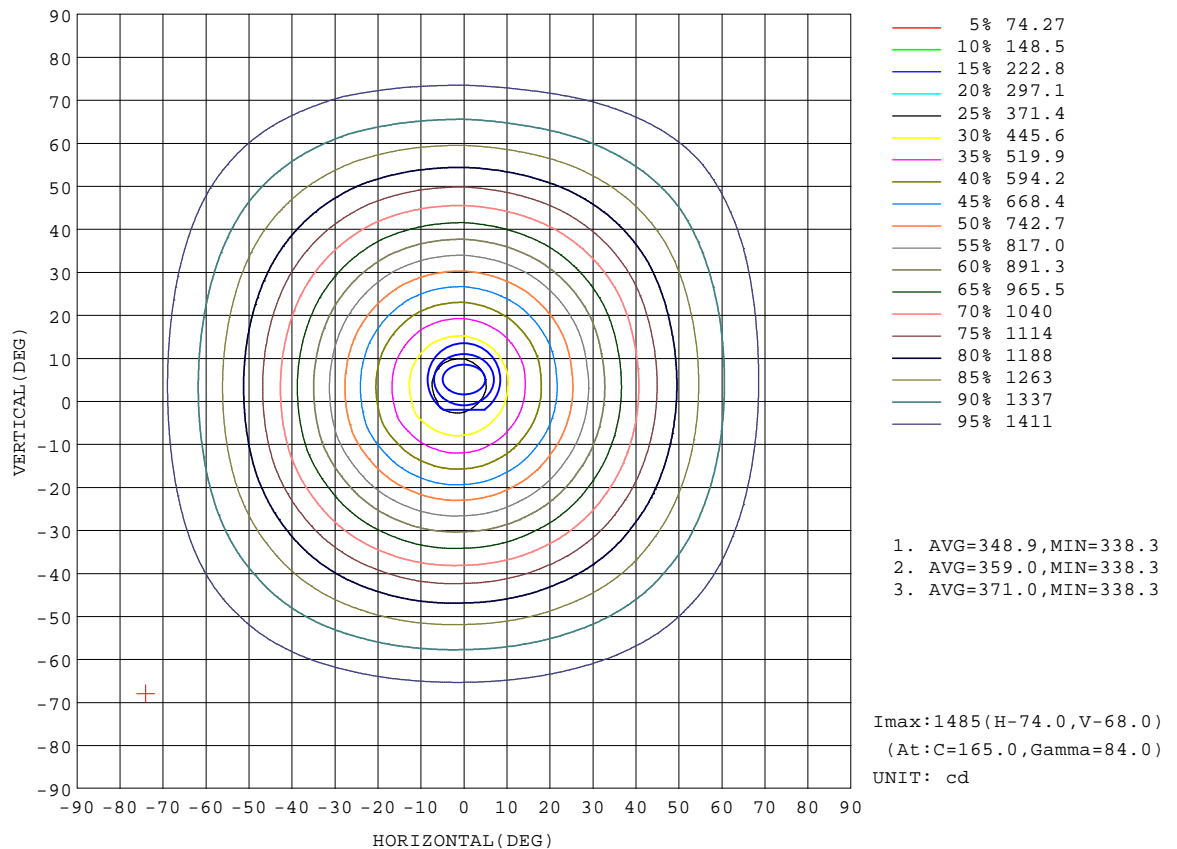
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	35	22	14	33	21	14	30	19	13	5
0.80	43	29	20	41	27	19	36	25	17	8
1.00	50	35	26	47	34	25	41	32	22	11
1.25	57	42	32	53	40	31	46	35	27	14
1.50	63	48	38	58	45	36	50	40	32	17
2.00	70	57	47	65	53	44	56	46	39	21
2.50	76	63	53	70	59	50	60	51	44	24
3.00	80	68	59	74	64	55	63	55	48	27
4.00	85	75	67	79	70	62	67	60	54	31
5.00	89	80	72	82	74	68	70	64	58	34
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:KAR  
Test Date:11 Mar 2020

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.351  
Humidity:65.0%  
Test Distance:8.100m [K=1.0000]  
Remarks: OB230-100W-3000K

**ISOCANDELA DIAGRAM**

Test:U:219.6V I:0.4574A P:96.38W PF:0.9594 Lamp Flux:14033.2x1 lm		
NAME: OB230	TYPE:LED	WEIGHT:
SPEC.:100W-3000K	DIM.:	SERIAL No.:
MFR.: ICEPIPE	SUR.:	Shielding Angle:



**C Range: 0 - 360DEG**  
**C Interval: 15.0DEG**  
**Test Speed: HIGH**  
**Temperature:25.3DEG**  
**Operators:KAR**  
**Test Date:11 Mar 2020**

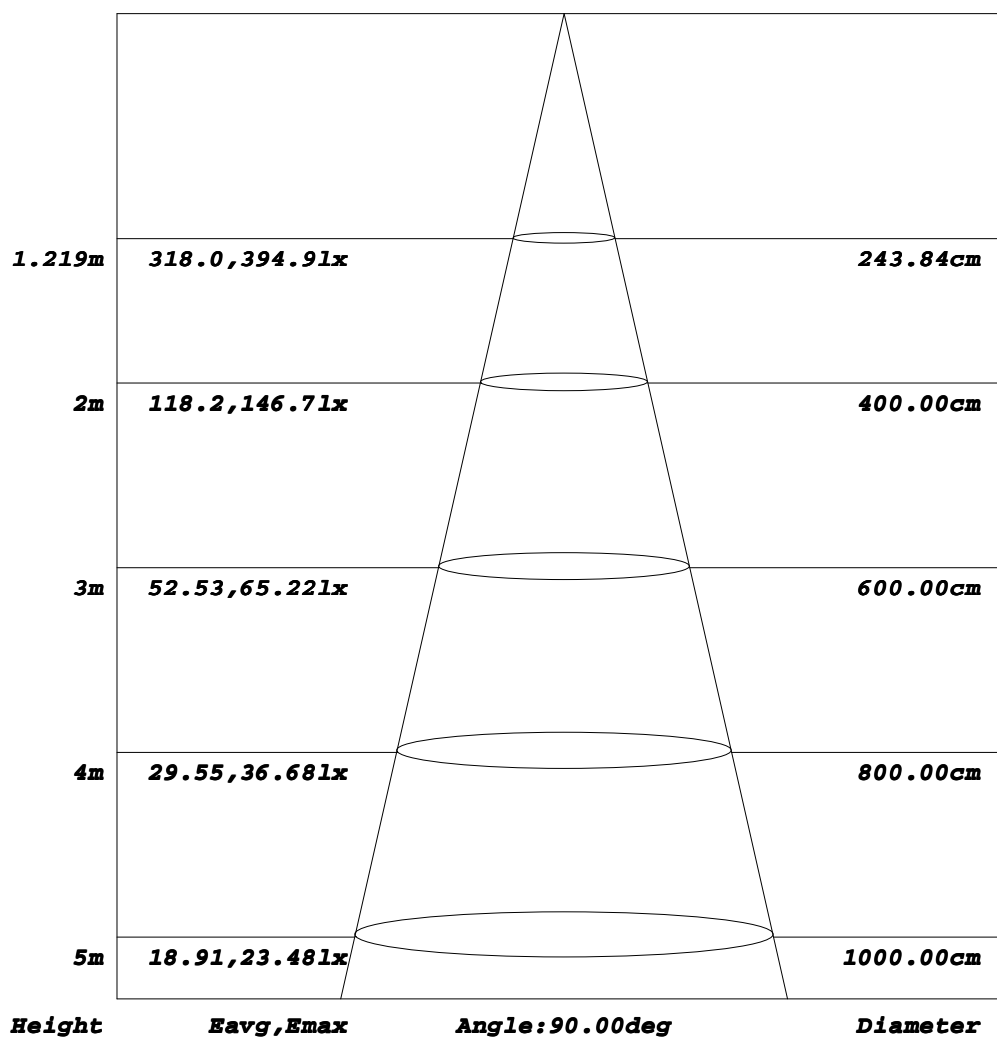
**γ Range: 0 - 180DEG**  
**γ Interval: 1.0DEG**  
**Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.351**  
**Humidity:65.0%**  
**Test Distance:8.100m [K=1.0000]**  
**Remarks: OB230-100W-3000K**



**AAI Figure**

Test:U:219.6V I:0.4574A P:96.38W PF:0.9594 Lamp Flux:14033.2x1 lm		
NAME: OB230	TYPE:LED	WEIGHT:
SPEC.:100W-3000K	DIM.:	SERIAL No.:
MFR.: ICEPIPE	SUR.:	Shielding Angle:

**Flux out:1485 lm**



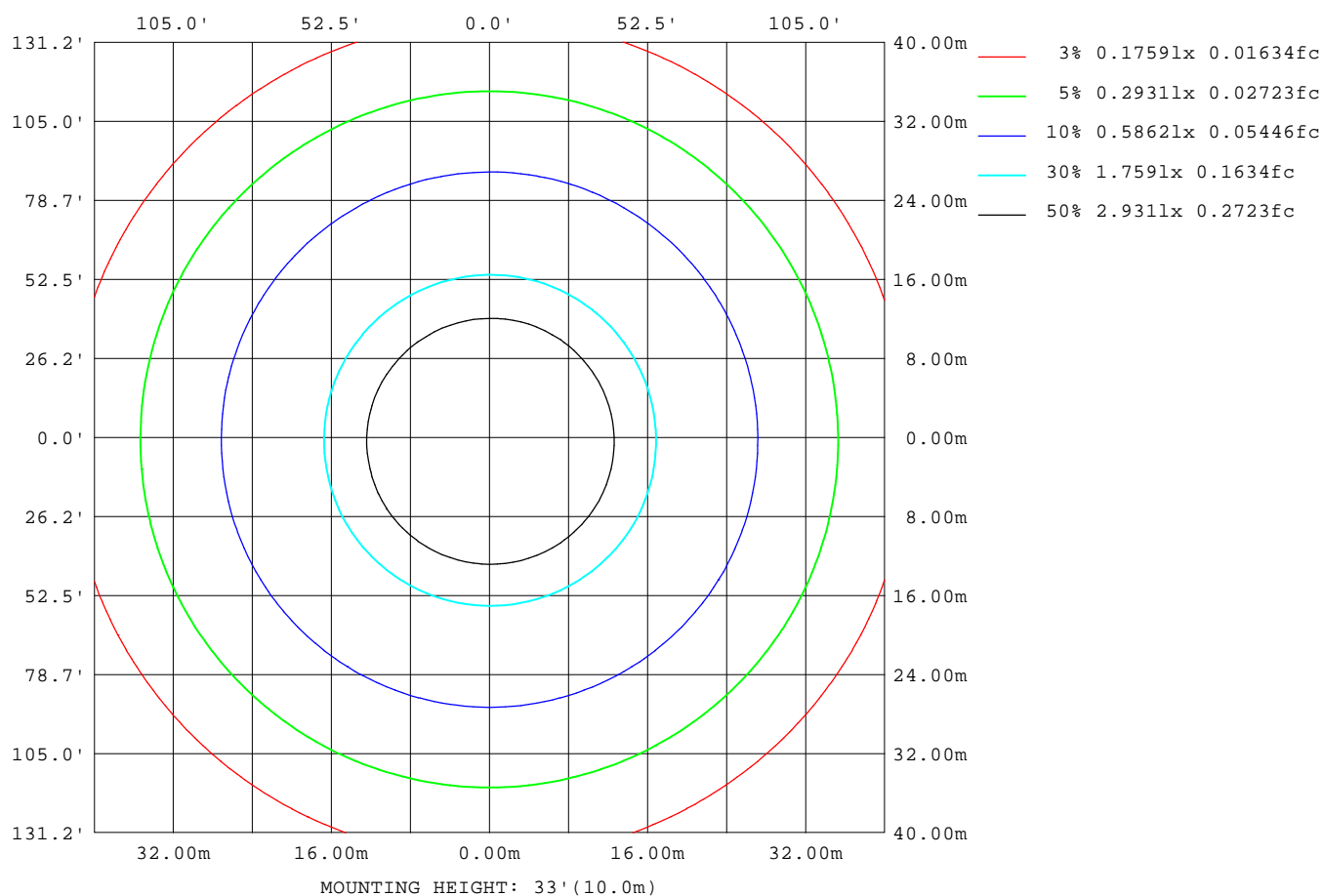
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

**C Range: 0 - 360DEG**  
**C Interval: 15.0DEG**  
**Test Speed: HIGH**  
**Temperature: 25.3DEG**  
**Operators: KAR**  
**Test Date: 11 Mar 2020**

**γ Range: 0 - 180DEG**  
**γ Interval: 1.0DEG**  
**Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.351**  
**Humidity: 65.0%**  
**Test Distance: 8.100m [K=1.0000]**  
**Remarks: OB230-100W-3000K**

**ISOLUX DIAGRAM**

Test:U:219.6V I:0.4574A P:96.38W PF:0.9594 Lamp Flux:14033.2x1 lm		
NAME: OB230	TYPE:LED	WEIGHT:
SPEC.:100W-3000K	DIM.:	SERIAL No.:
MFR.: ICEPIPE	SUR.:	Shielding Angle:



**C Range: 0 - 360DEG**  
**C Interval: 15.0DEG**  
**Test Speed: HIGH**  
**Temperature: 25.3DEG**  
**Operators: KAR**  
**Test Date: 11 Mar 2020**

**γ Range: 0 - 180DEG**  
**γ Interval: 1.0DEG**  
**Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.351**  
**Humidity: 65.0%**  
**Test Distance: 8.100m [K=1.0000]**  
**Remarks: OB230-100W-3000K**

**LED Avg.L Report**

Test:U:219.6V I:0.4574A P:96.38W PF:0.9594 Lamp Flux:14033.2x1 lm		
NAME: OB230	TYPE:LED	WEIGHT:
SPEC.:100W-3000K	DIM.:	SERIAL No.:
MFR.: ICEPIPE	SUR.:	Shielding Angle:

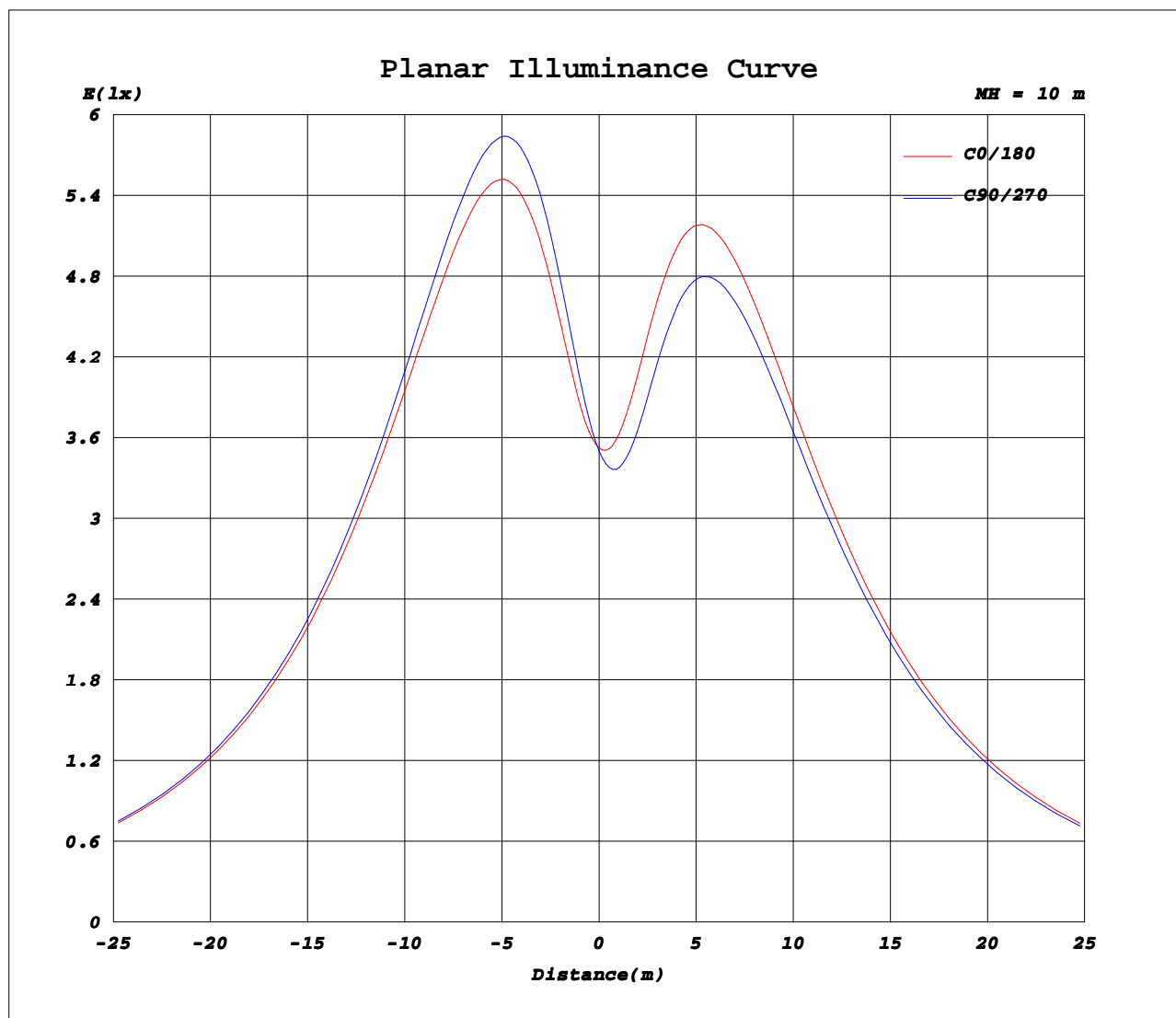
AvgL	cd/m2
L_0~180(65)av	32610
L_0~180(75)av	56125
L_0~180(85)av	168857
L_90~270(65)av	32399
L_90~270(75)av	55791
L_90~270(85)av	167812
L_45(65)av	32557
L_45(75)av	56017
L_45(85)av	168611

Standard: GB/T 29293-2012

**C Range: 0 - 360DEG**  
**C Interval: 15.0DEG**  
**Test Speed: HIGH**  
**Temperature:25.3DEG**  
**Operators:KAR**  
**Test Date:11 Mar 2020**

**γ Range: 0 - 180DEG**  
**γ Interval: 1.0DEG**  
**Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.351**  
**Humidity:65.0%**  
**Test Distance:8.100m [K=1.0000]**  
**Remarks: OB230-100W-3000K**

**Planar Illuminance Curve**



**C Range: 0 - 360DEG**  
**C Interval: 15.0DEG**  
**Test Speed: HIGH**  
**Temperature: 25.3DEG**  
**Operators: KAR**  
**Test Date: 11 Mar 2020**

**γ Range: 0 - 180DEG**  
**γ Interval: 1.0DEG**  
**Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.351**  
**Humidity: 65.0%**  
**Test Distance: 8.100m [K=1.0000]**  
**Remarks: OB230-100W-3000K**

**LUMINOUS DISTRIBUTION INTENSITY DATA**

Test:U:219.6V I:0.4574A P:96.38W PF:0.9594 Lamp Flux:14033.2x1 lm																		
NAME: OB230									TYPE:LED					WEIGHT:				
SPEC.:100W-3000K									DIM.:					SERIAL No.:				
MFR.: ICEPIPE									SUR.:					Shielding Angle:				

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270
0	353	352	352	352	351	351	350	350	349	349	349	348	353	352	352	352	351	351	350
5	384	391	398	401	404	402	401	396	391	383	375	364	363	355	348	344	340	339	340
10	452	464	476	482	486	485	483	475	467	453	440	420	413	400	386	378	371	371	373
15	541	556	571	578	583	582	580	571	561	545	529	505	494	477	460	449	441	440	443
20	639	655	672	680	685	685	682	672	661	645	628	603	590	572	554	542	533	532	535
25	740	758	774	782	788	787	784	774	763	747	730	705	691	674	655	643	634	633	636
30	840	857	874	882	887	887	884	875	865	849	832	807	794	776	759	746	737	736	738
35	937	955	971	979	984	984	981	972	963	948	931	907	895	878	860	848	838	838	839
40	1030	1048	1063	1071	1076	1075	1072	1065	1056	1042	1027	1006	992	976	959	948	937	936	937
45	1117	1135	1149	1156	1160	1160	1158	1151	1143	1131	1117	1096	1083	1069	1053	1041	1031	1030	1031
50	1197	1214	1228	1234	1238	1237	1235	1229	1223	1212	1200	1181	1169	1156	1140	1128	1119	1117	1118
55	1269	1284	1297	1303	1306	1306	1304	1298	1295	1284	1274	1258	1247	1235	1221	1209	1199	1197	1199
60	1331	1345	1358	1361	1363	1363	1363	1358	1355	1348	1340	1326	1315	1305	1292	1281	1271	1269	1270
65	1382	1396	1405	1409	1410	1409	1408	1407	1404	1400	1395	1383	1374	1365	1353	1343	1334	1331	1331
70	1422	1433	1442	1444	1444	1444	1444	1443	1442	1440	1437	1429	1420	1413	1404	1394	1385	1383	1382
75	1450	1458	1465	1466	1465	1465	1466	1465	1467	1467	1466	1461	1455	1450	1443	1434	1425	1424	1422
80	1463	1470	1475	1474	1472	1471	1472	1475	1477	1480	1482	1481	1476	1474	1468	1460	1452	1449	1448
85	1461	1466	1467	1466	1462	1462	1463	1467	1472	1478	1482	1485	1483	1483	1480	1472	1466	1463	1462
90	1446	1449	1448	1445	1443	1441	1443	1448	1454	1462	1469	1473	1474	1477	1475	1470	1465	1462	1460
95	1420	1419	1418	1414	1410	1410	1411	1417	1424	1434	1443	1452	1453	1458	1459	1454	1449	1446	1445
100	1380	1378	1374	1368	1364	1364	1366	1372	1382	1394	1404	1416	1420	1427	1430	1427	1422	1420	1417
105	1327	1324	1318	1312	1307	1305	1308	1317	1326	1340	1353	1368	1373	1383	1387	1385	1383	1381	1377
110	1264	1258	1251	1244	1237	1237	1241	1249	1259	1275	1289	1308	1316	1326	1333	1333	1332	1328	1325
115	1191	1182	1174	1166	1159	1158	1162	1172	1184	1200	1216	1237	1246	1259	1267	1268	1268	1265	1261
120	1108	1098	1088	1079	1073	1072	1075	1085	1098	1116	1133	1156	1166	1180	1191	1193	1194	1192	1187
125	1019	1007	995	985	978	977	982	992	1006	1023	1042	1066	1078	1094	1106	1109	1111	1108	1104
130	922	908	895	886	878	878	882	894	906	926	945	970	984	1000	1013	1018	1021	1017	1014
135	820	805	791	781	773	774	777	789	803	823	843	870	882	900	914	920	923	921	916
140	714	699	683	673	665	665	670	681	695	716	736	764	777	795	810	816	821	818	814
145	606	590	573	563	555	555	559	572	586	606	627	655	669	687	703	709	715	712	708
150	498	480	464	453	445	446	450	462	476	496	517	545	559	576	592	600	605	603	599
155	391	373	357	347	339	339	343	355	369	388	409	435	449	466	482	489	495	493	490
160	290	275	259	250	242	243	246	257	269	288	306	331	343	359	373	381	387	385	382
165	203	190	176	169	162	163	165	175	185	201	216	236	246	260	274	280	286	284	282
170	134	125	115	108	104	104	107	114	122	134	144	157	165	176	187	191	197	195	194
175	64.9	57.8	51.0	47.5	45.0	45.6	47.4	52.2	58.0	66.4	75.3	86.8	89.1	97.2	106	110	113	113	111
180	21.1	21.1	21.1	21.1	21.1	21.2	21.3	21.3	21.4	21.4	21.4	21.5	21.1	21.1	21.1	21.1	21.1	21.2	21.3

**C Range: 0 - 360DEG**  
**C Interval: 15.0DEG**  
**Test Speed: HIGH**  
**Temperature:25.3DEG**  
**Operators:KAR**  
**Test Date:11 Mar 2020**

**γ Range: 0 - 180DEG**  
**γ Interval: 1.0DEG**  
**Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.351**  
**Humidity:65.0%**  
**Test Distance:8.100m [K=1.0000]**  
**Remarks: OB230-100W-3000K**

**LUMINOUS DISTRIBUTION INTENSITY DATA**

Test:U:219.6V I:0.4574A P:96.38W PF:0.9594 Lamp Flux:14033.2x1 lm		
NAME: OB230	TYPE:LED	WEIGHT:
SPEC.:100W-3000K	DIM.:	SERIAL No.:
MFR.: ICEPIPE	SUR.:	Shielding Angle:

Table--2

UNIT: cd

C(DEG) γ (DEG)	285	300	315	330	345														
0	350	349	349	349	348														
5	344	349	356	364	374														
10	381	390	404	419	437														
15	454	466	483	501	525														
20	547	560	578	597	622														
25	647	660	678	697	723														
30	749	761	779	798	823														
35	850	862	879	896	921														
40	948	958	974	990	1014														
45	1040	1050	1065	1080	1102														
50	1127	1136	1149	1163	1182														
55	1206	1215	1226	1238	1256														
60	1276	1283	1294	1302	1319														
65	1338	1343	1352	1358	1371														
70	1388	1391	1398	1404	1412														
75	1425	1429	1433	1435	1442														
80	1451	1452	1453	1454	1457														
85	1463	1463	1462	1459	1458														
90	1459	1457	1453	1448	1444														
95	1442	1439	1435	1427	1421														
100	1414	1410	1402	1393	1383														
105	1373	1367	1357	1346	1333														
110	1319	1312	1300	1287	1272														
115	1254	1245	1233	1218	1200														
120	1179	1169	1155	1139	1119														
125	1095	1085	1069	1052	1029														
130	1003	992	976	958	934														
135	906	894	877	858	833														
140	803	791	773	754	728														
145	697	684	666	647	621														
150	588	575	557	538	512														
155	478	466	449	430	405														
160	372	361	344	327	303														
165	272	262	248	234	213														
170	187	180	166	157	142														
175	106	101	92.1	83.6	71.0														
180	21.3	21.4	21.4	21.4	21.5														

**C Range: 0 - 360DEG**  
**C Interval: 15.0DEG**  
**Test Speed: HIGH**  
**Temperature:25.3DEG**  
**Operators:KAR**  
**Test Date:11 Mar 2020**

**γ Range: 0 - 180DEG**  
**γ Interval: 1.0DEG**  
**Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.351**  
**Humidity:65.0%**  
**Test Distance:8.100m [K=1.0000]**  
**Remarks: OB230-100W-3000K**

**Photometric Data Table [cd]**

G/C	0.0	15.0	30.0	45.0	60.0	75.0	90.0	105.0	120.0	135.0
0.0	352.6	352.3	352.2	351.5	351.4	350.6	350.2	349.5	349.3	348.7
3.0	366.5	370.7	374.6	376.4	377.9	377.1	376.4	372.7	369.8	364.5
6.0	395.2	403.2	411.1	415.1	418.1	416.9	415.4	409.8	404.0	394.6
9.0	436.0	447.3	458.2	464.0	468.2	467.0	465.0	457.3	449.6	437.1
12.0	485.8	499.5	512.6	519.0	524.2	523.0	520.5	511.9	502.7	488.2
15.0	541.2	556.0	570.6	578.2	583.1	582.4	579.7	570.6	560.5	544.8
18.0	599.8	615.9	630.9	638.8	644.1	643.5	640.6	631.1	620.6	604.2
21.0	659.2	676.0	691.8	699.8	706.1	705.0	701.7	692.4	681.6	665.2
24.0	719.5	737.1	752.8	761.5	767.1	766.4	763.3	754.2	743.2	726.8
27.0	780.0	797.7	814.2	822.6	828.0	827.0	824.7	815.1	804.3	787.6
30.0	840.1	857.4	873.9	882.1	887.5	886.6	884.3	875.3	865.2	849.0
33.0	898.9	916.4	932.6	941.1	946.4	945.6	942.6	933.8	923.7	908.8
36.0	956.2	973.9	989.7	998.1	1003	1003	999.5	991.3	982.2	967.2
39.0	1011	1029	1045	1053	1058	1058	1055	1047	1037	1024
42.0	1065	1083	1098	1106	1111	1110	1108	1100	1092	1078
45.0	1117	1135	1149	1156	1160	1160	1158	1151	1143	1131
48.0	1166	1183	1197	1204	1208	1207	1205	1198	1191	1180
51.0	1213	1229	1242	1248	1253	1251	1249	1243	1238	1227
54.0	1256	1271	1285	1290	1293	1292	1291	1285	1280	1271
57.0	1295	1310	1323	1328	1330	1329	1328	1323	1319	1311
60.0	1331	1345	1358	1361	1363	1363	1363	1358	1355	1348
63.0	1363	1376	1388	1391	1393	1392	1392	1387	1386	1380
66.0	1391	1405	1414	1417	1418	1417	1417	1415	1413	1409
69.0	1415	1426	1435	1438	1438	1437	1436	1436	1436	1433
72.0	1434	1445	1453	1454	1455	1453	1454	1453	1454	1452
75.0	1450	1458	1465	1466	1465	1465	1466	1465	1467	1467
78.0	1459	1467	1472	1472	1471	1470	1472	1472	1474	1476
81.0	1464	1470	1474	1473	1472	1470	1471	1473	1478	1480
84.0	1463	1468	1470	1469	1467	1466	1467	1470	1475	1480
87.0	1456	1459	1461	1459	1456	1455	1457	1460	1466	1472
90.0	1446	1449	1448	1445	1443	1441	1443	1448	1454	1462
93.0	1431	1432	1432	1428	1425	1424	1426	1431	1438	1447
96.0	1413	1413	1410	1407	1401	1401	1403	1409	1417	1427
99.0	1388	1387	1384	1379	1374	1374	1376	1382	1391	1403
102.0	1360	1358	1353	1347	1342	1341	1345	1352	1361	1373
105.0	1327	1324	1318	1312	1307	1305	1308	1317	1326	1340
108.0	1291	1285	1279	1272	1266	1266	1269	1277	1288	1302
111.0	1250	1244	1237	1229	1223	1222	1226	1234	1245	1261
114.0	1206	1198	1190	1182	1175	1176	1178	1188	1200	1215
117.0	1159	1149	1140	1132	1125	1125	1128	1138	1150	1167
120.0	1108	1098	1088	1079	1073	1072	1075	1085	1098	1116
123.0	1055	1044	1032	1024	1017	1016	1020	1031	1043	1062
126.0	999.9	987.9	975.0	965.5	958.4	957.9	962.0	973.3	986.6	1005
129.0	942.0	928.0	915.4	906.0	898.5	898.0	902.3	913.5	926.9	945.9
132.0	881.5	867.4	854.1	844.4	837.1	835.9	840.8	852.0	865.8	884.4
135.0	820.0	805.4	791.2	781.5	773.3	773.8	777.3	789.1	802.8	822.6
138.0	757.0	741.9	727.1	716.9	708.7	708.8	713.0	724.8	739.0	758.4
141.0	692.7	676.3	661.7	651.4	643.7	643.3	647.1	659.1	673.7	693.3
144.0	628.0	611.8	595.7	585.6	577.0	577.3	581.4	593.7	607.7	628.3
147.0	562.6	545.8	529.3	518.8	510.9	511.2	515.0	527.1	541.7	561.9
150.0	497.5	480.1	463.6	453.2	445.2	445.6	449.6	461.6	475.7	496.2
153.0	432.7	415.6	398.8	388.7	380.9	381.2	384.7	396.8	410.9	430.8
156.0	369.8	352.9	336.3	326.3	318.6	319.2	322.6	334.5	348.0	367.1
159.0	309.7	293.7	277.4	268.1	260.6	261.6	264.5	276.0	288.5	307.0
162.0	253.4	238.8	223.3	215.0	207.8	208.8	211.2	222.1	233.5	251.1
165.0	202.7	189.8	176.0	168.6	162.1	163.0	165.2	174.7	185.0	200.7
168.0	159.1	148.2	137.1	130.0	125.0	124.9	127.9	135.3	144.2	157.7
171.0	122.5	112.6	103.2	97.38	93.39	93.70	96.24	102.7	110.7	121.4
174.0	80.94	73.14	65.72	61.41	58.32	59.00	61.06	66.59	72.97	82.15
177.0	21.22	21.03	21.07	21.05	21.12	21.15	21.25	21.29	21.40	21.53
180.0	21.07	21.07	21.08	21.09	21.13	21.21	21.28	21.33	21.38	21.41
G/C	150.0	165.0	180.0	195.0	210.0	225.0	240.0	255.0	270.0	285.0
0.0	348.9	348.1	352.6	352.3	352.2	351.5	351.4	350.6	350.2	349.5
3.0	359.9	352.7	353.3	348.7	344.7	341.4	339.4	338.5	339.4	341.1
6.0	385.7	372.5	369.6	360.6	352.5	346.9	343.0	342.1	343.6	348.3
9.0	424.2	406.3	400.1	387.7	375.4	367.5	361.8	361.1	363.3	370.4
12.0	473.5	451.6	442.8	427.4	412.4	402.6	395.0	394.8	397.6	406.4
15.0	528.7	504.9	494.1	477.0	460.1	448.7	440.6	440.1	443.0	453.6
18.0	587.4	562.8	550.5	533.2	515.1	503.1	494.5	493.8	496.9	508.2
21.0	648.0	622.7	610.0	592.0	574.0	562.0	552.9	552.1	554.7	566.3
24.0	709.1	684.1	671.1	653.2	634.5	622.6	613.1	612.2	615.1	626.5
27.0	770.6	746.1	732.5	715.0	696.1	685.0	674.5	673.9	676.5	688.0
30.0	832.1	807.3	794.0	776.0	758.8	746.3	736.6	735.6	737.9	749.0

**C Range: 0 - 360DEG**  
**C Interval: 15.0DEG**  
**Test Speed: HIGH**  
**Temperature: 25.3DEG**  
**Operators: KAR**  
**Test Date: 11 Mar 2020**

**γ Range: 0 - 180DEG**  
**γ Interval: 1.0DEG**  
**Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.351**  
**Humidity: 65.0%**  
**Test Distance: 8.100m [K=1.0000]**  
**Remarks: OB230-100W-3000K**

**Photometric Data Table [cd]**

33.0	892.2	869.0	854.8	837.8	820.5	807.8	798.2	796.9	798.8	809.9
36.0	950.5	927.4	914.1	897.8	880.5	868.3	858.2	856.8	858.8	869.2
39.0	1008	986.0	972.7	956.3	939.8	927.8	917.8	916.2	918.0	928.3
42.0	1064	1042	1029	1014	997.7	985.4	975.0	973.8	975.2	985.6
45.0	1117	1096	1083	1069	1053	1041	1031	1030	1031	1040
48.0	1168	1148	1136	1122	1106	1095	1085	1083	1084	1093
51.0	1216	1197	1186	1172	1157	1145	1135	1134	1135	1143
54.0	1260	1243	1232	1219	1206	1194	1183	1182	1183	1190
57.0	1302	1286	1276	1264	1250	1239	1229	1227	1228	1235
60.0	1340	1326	1315	1305	1292	1281	1271	1269	1270	1276
63.0	1374	1361	1351	1342	1330	1319	1309	1309	1308	1314
66.0	1404	1393	1384	1376	1365	1354	1345	1343	1342	1348
69.0	1429	1421	1412	1404	1394	1385	1375	1374	1373	1378
72.0	1450	1443	1435	1430	1421	1411	1403	1401	1399	1405
75.0	1466	1461	1455	1450	1443	1434	1425	1424	1422	1425
78.0	1477	1474	1469	1466	1460	1450	1443	1440	1439	1442
81.0	1483	1483	1479	1476	1471	1463	1456	1454	1452	1454
84.0	1484	1485	1483	1483	1478	1471	1464	1462	1461	1461
87.0	1478	1483	1482	1483	1480	1473	1467	1464	1462	1463
90.0	1469	1473	1474	1477	1475	1470	1465	1462	1460	1459
93.0	1454	1462	1462	1466	1466	1461	1455	1453	1451	1450
96.0	1437	1446	1448	1453	1454	1450	1446	1442	1439	1438
99.0	1414	1425	1427	1434	1437	1433	1428	1427	1424	1421
102.0	1385	1399	1403	1411	1415	1412	1408	1406	1402	1399
105.0	1353	1368	1373	1383	1387	1385	1383	1381	1377	1373
108.0	1317	1333	1340	1349	1357	1355	1353	1351	1347	1342
111.0	1276	1295	1302	1313	1321	1319	1319	1316	1313	1307
114.0	1232	1252	1260	1273	1281	1282	1281	1280	1275	1268
117.0	1183	1205	1214	1229	1238	1239	1239	1237	1233	1226
120.0	1133	1156	1166	1180	1191	1193	1194	1192	1187	1179
123.0	1080	1102	1114	1129	1141	1144	1146	1143	1139	1129
126.0	1024	1048	1060	1076	1088	1091	1094	1091	1087	1078
129.0	965.5	990.2	1002	1019	1032	1037	1039	1037	1032	1022
132.0	905.3	931.0	943.3	960.2	973.8	979.0	982.2	980.2	975.8	965.4
135.0	843.0	869.7	881.9	900.1	914.1	920.4	923.5	920.7	916.5	905.9
138.0	779.8	806.7	819.4	837.7	851.8	858.3	862.5	859.9	855.7	844.8
141.0	714.4	742.2	755.8	773.4	788.8	795.5	799.9	797.5	793.6	782.5
144.0	649.3	677.0	690.8	708.1	724.0	731.0	736.4	734.0	729.9	718.2
147.0	583.2	610.6	625.1	642.7	658.3	665.8	670.5	668.6	664.5	652.9
150.0	517.3	544.6	558.6	576.4	592.1	600.2	604.6	603.1	599.3	587.9
153.0	451.6	478.8	492.6	510.3	525.5	533.3	538.8	537.0	533.6	522.2
156.0	387.4	413.6	427.6	444.2	459.8	467.4	472.9	471.4	467.6	456.9
159.0	326.1	350.9	364.0	379.6	394.6	402.7	408.3	406.5	403.1	392.7
162.0	268.3	291.6	303.2	318.0	332.5	339.8	344.9	343.8	340.7	330.7
165.0	215.7	236.3	246.1	260.5	274.1	280.1	286.0	283.9	281.8	272.4
168.0	170.2	186.8	194.9	208.0	219.8	224.9	230.4	228.7	227.1	219.0
171.0	132.1	143.8	150.6	161.2	171.3	175.5	180.9	179.4	177.9	171.1
174.0	91.52	103.7	106.8	115.5	124.5	128.9	132.2	131.6	130.2	124.9
177.0	23.69	31.02	25.41	30.27	37.94	41.56	45.91	44.42	43.95	38.07
180.0	21.44	21.46	21.07	21.06	21.07	21.09	21.14	21.21	21.28	21.32
G/C	300.0	315.0	330.0	345.0						
0.0	349.3	348.7	348.9	348.1						
3.0	344.1	348.2	352.8	358.4						
6.0	354.2	362.6	371.7	383.5						
9.0	378.8	391.5	404.7	422.2						
12.0	417.1	432.8	449.2	470.1						
15.0	465.7	483.4	501.4	524.9						
18.0	520.9	539.2	557.4	582.5						
21.0	579.4	597.9	616.9	641.7						
24.0	639.5	658.1	677.1	702.6						
27.0	700.3	718.2	737.2	763.1						
30.0	761.3	779.2	797.8	822.7						
33.0	821.7	839.1	857.4	881.8						
36.0	881.3	897.8	915.0	939.5						
39.0	939.3	955.9	971.8	995.4						
42.0	996.0	1011	1027	1050						
45.0	1050	1065	1080	1102						
48.0	1102	1117	1130	1152						
51.0	1152	1165	1178	1198						
54.0	1199	1211	1223	1242						
57.0	1243	1254	1265	1281						
60.0	1283	1294	1302	1319						
63.0	1320	1329	1337	1352						
66.0	1353	1362	1368	1381						

**C Range: 0 - 360DEG**  
**C Interval: 15.0DEG**  
**Test Speed: HIGH**  
**Temperature: 25.3DEG**  
**Operators: KAR**  
**Test Date: 11 Mar 2020**

**γ Range: 0 - 180DEG**  
**γ Interval: 1.0DEG**  
**Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.351**  
**Humidity: 65.0%**  
**Test Distance: 8.100m [K=1.0000]**  
**Remarks: OB230-100W-3000K**



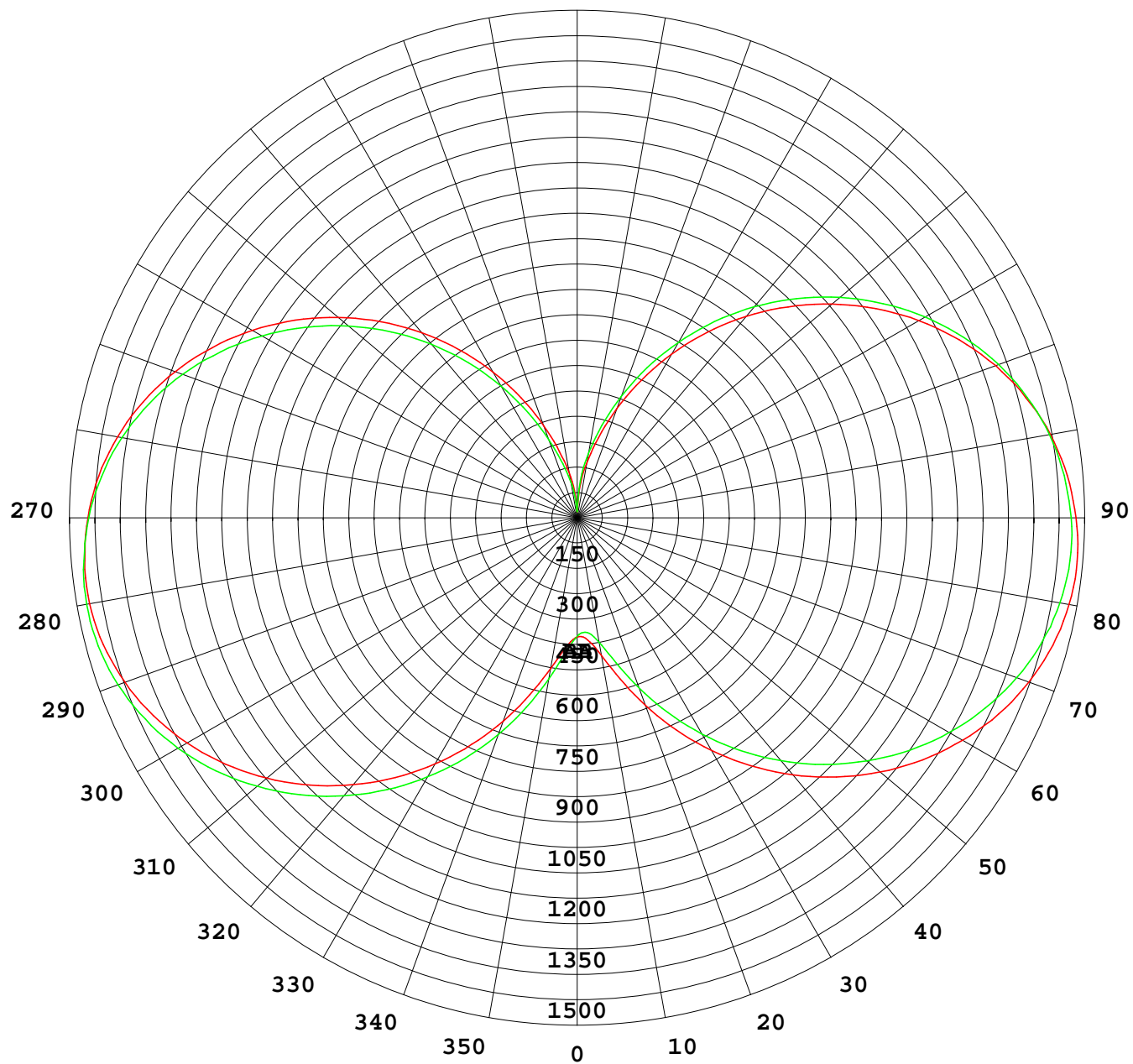
**Photometric Data Table [cd]**

69.0	1383	1389	1395	1405
72.0	1408	1413	1417	1426
75.0	1429	1433	1435	1442
78.0	1444	1447	1448	1453
81.0	1455	1457	1456	1459
84.0	1462	1461	1459	1459
87.0	1462	1460	1457	1454
90.0	1457	1453	1448	1444
93.0	1448	1443	1437	1432
96.0	1435	1429	1421	1415
99.0	1416	1410	1401	1391
102.0	1394	1386	1376	1365
105.0	1367	1357	1346	1333
108.0	1336	1326	1312	1297
111.0	1299	1289	1275	1258
114.0	1260	1247	1233	1215
117.0	1216	1203	1188	1168
120.0	1169	1155	1139	1119
123.0	1119	1104	1087	1066
126.0	1066	1051	1033	1010
129.0	1012	994.9	977.2	953.5
132.0	954.0	937.0	918.3	894.0
135.0	894.0	877.1	857.6	833.2
138.0	833.1	814.7	796.0	770.5
141.0	770.2	752.1	732.4	706.8
144.0	706.3	687.4	668.4	642.1
147.0	640.7	622.4	603.3	576.9
150.0	575.4	556.9	537.8	511.8
153.0	510.0	492.0	473.0	447.0
156.0	444.9	427.4	409.1	383.6
159.0	381.4	364.5	347.1	322.7
162.0	319.5	303.9	288.7	265.3
165.0	262.2	247.8	234.1	213.4
168.0	210.2	196.6	185.3	168.2
171.0	165.0	151.3	143.2	130.0
174.0	118.4	110.3	101.4	88.40
177.0	34.14	27.67	23.47	21.39
180.0	21.38	21.42	21.44	21.46

**C Range: 0 - 360DEG**  
**C Interval: 15.0DEG**  
**Test Speed: HIGH**  
**Temperature: 25.3DEG**  
**Operators: KAR**  
**Test Date: 11 Mar 2020**

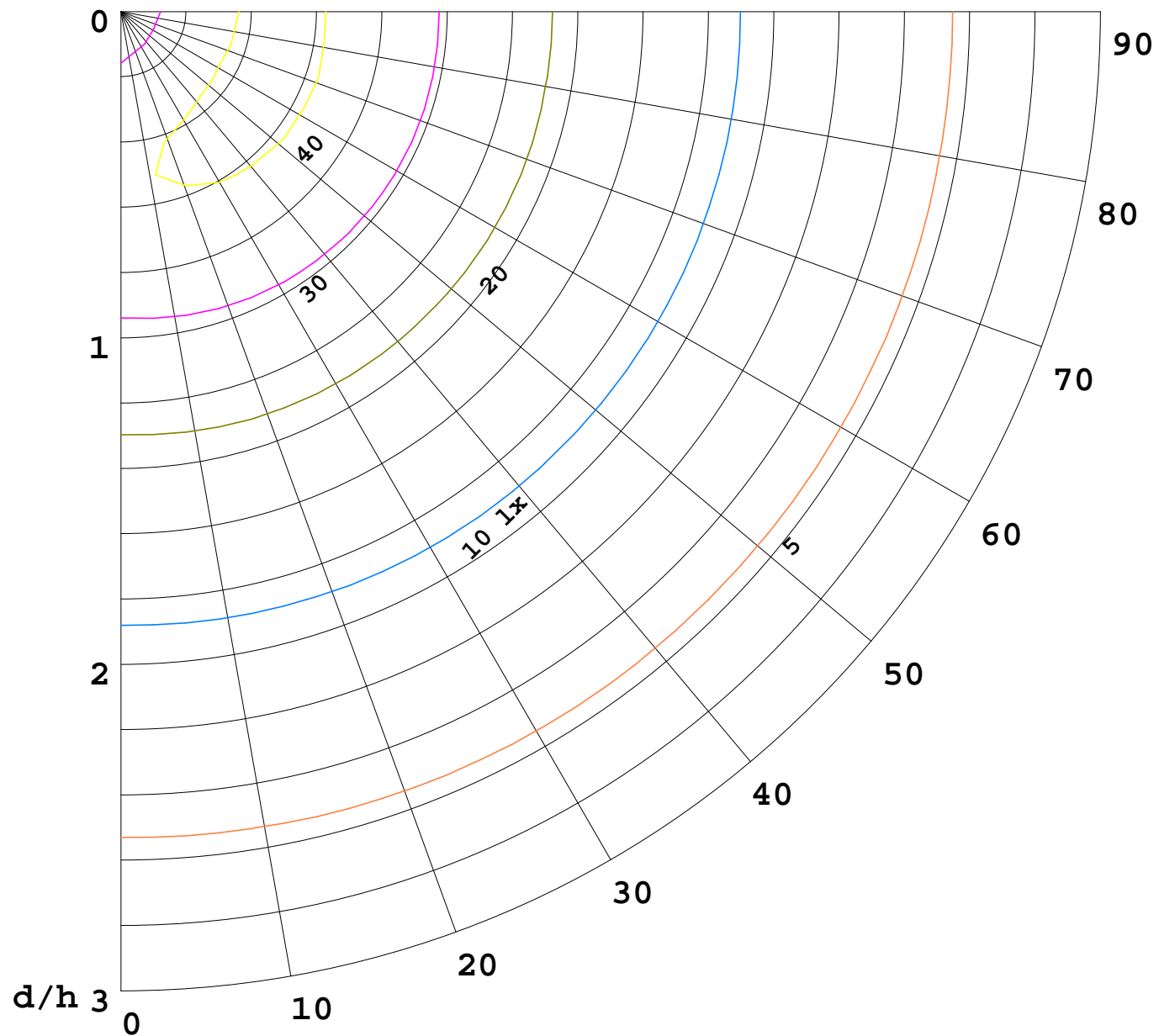
**γ Range: 0 - 180DEG**  
**γ Interval: 1.0DEG**  
**Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.351**  
**Humidity: 65.0%**  
**Test Distance: 8.100m [K=1.0000]**  
**Remarks: OB230-100W-3000K**

I(cd)



1000 lm

$K = 1$



**F** = 1000 lm  
**K** = 0.7  
**Hcc** = 0.8 m  
**Hfc** = 0.0 m  
**Eave** = 100 lx

	<b>Pcc</b>	<b>Pw</b>	<b>Pfc</b>
—————	70	50	30
—————	50	30	20

