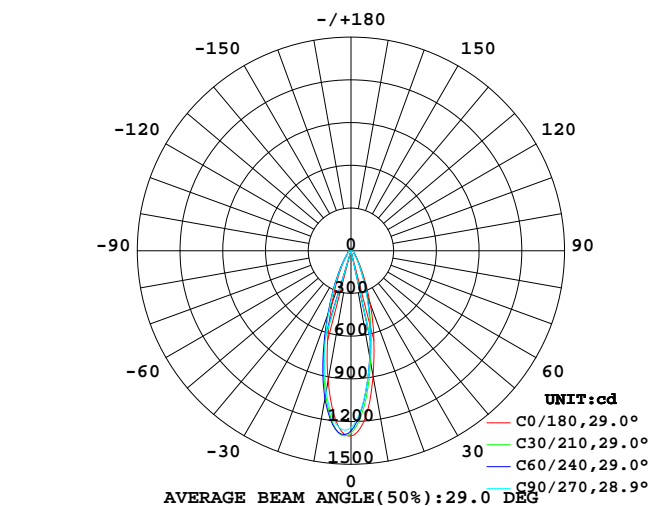


LUMINAIRE PHOTOMETRIC TEST REPORT

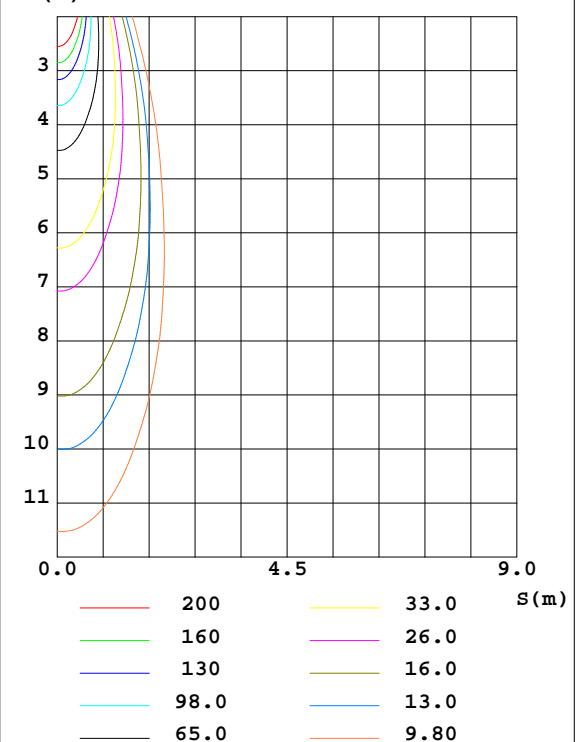
Test:U:12.00V I:0.5000A P:6.000W PF:0.1000 Lamp Flux:536.184x1 lm		
NAME: LED Spot light	TYPE:LED	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: 深圳市航一佳光电科技有限公司	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 89.36 lm/W			
MODEL	WHE703MR16-W4DW	Imax(cd)	1301	S/MH(C0/180)	0.49
NOMINAL POWER(W)	6	LOR(%)	100.0	S/MH(C90/270)	0.55
RATED VOLTAGE(V)	12	TOTAL FLUX(lm)	536.18	η UP,DN(C0-180)	0.3,52.7
NOMINAL FLUX(lm)	536.184	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.3,46.6
LAMPS INSIDE	1	η up(%)	0.7	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	0.0	η down(%)	99.3	CIBSE SHR MAX	0.50

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 24DEG
Operators: TGB
Test Date: 2015-06-18

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.269
Humidity: 65%
Test Distance: 8.400m [K=1.0000]
Remarks:

Uncorrected UGR Table

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	15.6	16.6	15.9	16.8	17.0	15.6	16.6	15.9	16.8	16.9
3H	17.9	18.8	18.2	19.0	19.2	17.8	18.8	18.1	19.0	19.2
4H	18.9	19.7	19.1	20.0	20.2	18.9	19.8	19.2	20.0	20.2
6H	19.5	20.4	19.8	20.6	20.9	19.7	20.5	20.0	20.8	21.0
8H	19.8	20.5	20.1	20.8	21.1	20.0	20.8	20.3	21.1	21.3
12H	19.9	20.7	20.2	20.9	21.2	20.2	21.0	20.6	21.3	21.6
4H 2H	16.5	17.4	16.8	17.6	17.8	16.5	17.3	16.8	17.6	17.8
3H	19.0	19.8	19.3	20.1	20.4	19.0	19.7	19.3	20.0	20.3
4H	20.1	20.8	20.5	21.1	21.4	20.1	20.8	20.5	21.2	21.5
6H	20.9	21.5	21.3	21.9	22.2	21.1	21.7	21.5	22.0	22.4
8H	21.2	21.8	21.6	22.1	22.5	21.4	22.0	21.8	22.4	22.8
12H	21.4	21.9	21.8	22.3	22.7	21.7	22.2	22.1	22.6	23.0
8H 4H	20.6	21.2	21.0	21.5	21.9	20.6	21.2	21.0	21.6	21.9
6H	21.6	22.1	22.0	22.5	22.9	21.7	22.2	22.2	22.6	23.1
8H	22.0	22.4	22.4	22.8	23.3	22.2	22.6	22.7	23.1	23.5
12H	22.2	22.6	22.7	23.1	23.5	22.6	22.9	23.1	23.4	23.9
12H 4H	20.6	21.2	21.0	21.5	22.0	20.7	21.2	21.1	21.6	22.0
6H	21.7	22.1	22.2	22.6	23.0	21.8	22.3	22.3	22.7	23.2
8H	22.1	22.5	22.6	23.0	23.5	22.4	22.7	22.8	23.2	23.7
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.2					+ 0.1 / - 0.2				
1.5H	+ 0.1 / - 0.2					+ 0.1 / - 0.2				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.2				

CIE Pub.117 Corrected 536.2 lm Total Lamp Luminous Flux.(8log(F/F0) = -2.2)

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:24DEG
 Operators:TGB
 Test Date:2015-06-18

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.269
 Humidity:65%
 Test Distance:8.400m [K=1.0000]
 Remarks:

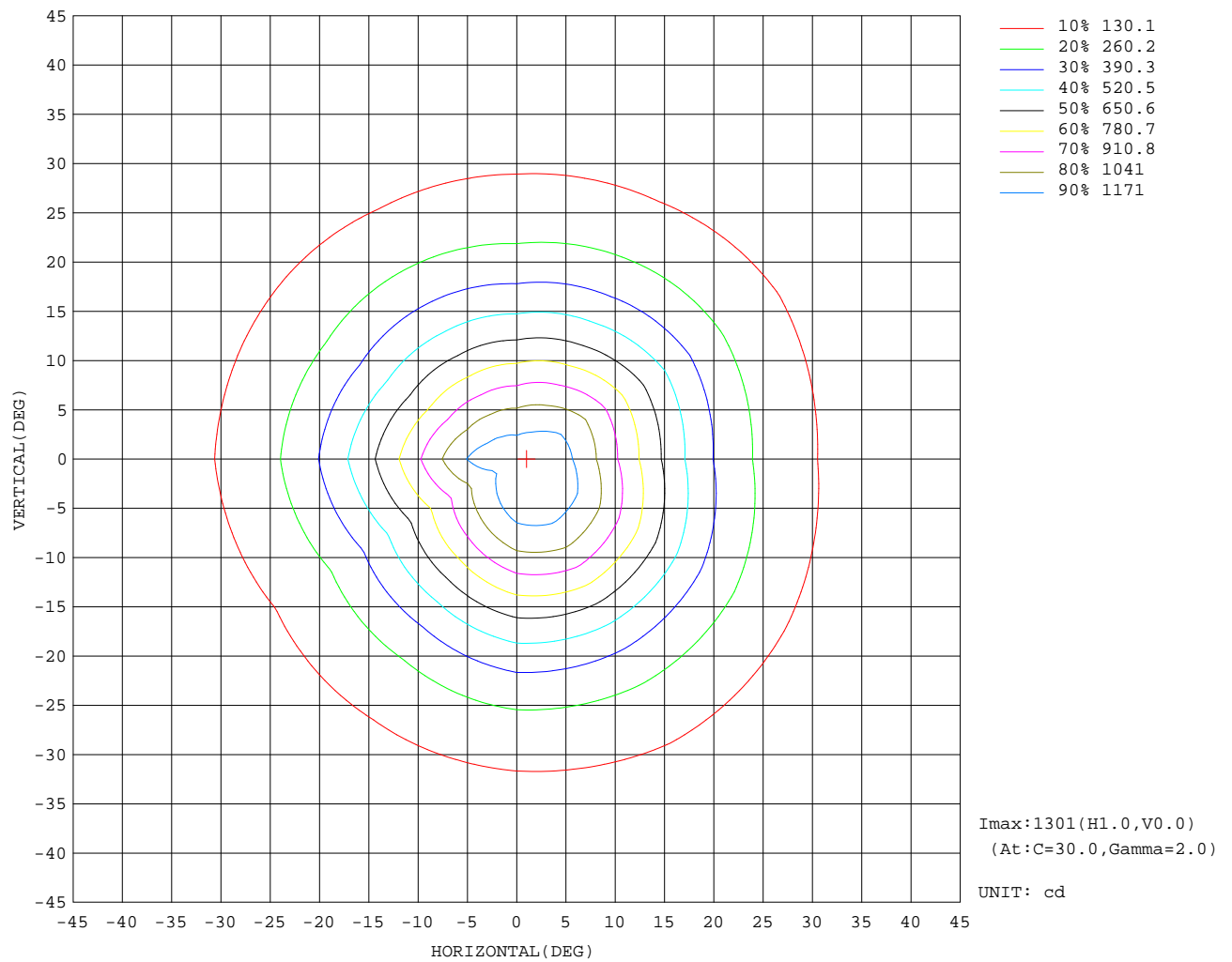
UTILIZATION FACTORS TABLE

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	80	72	67	79	72	67	78	71	67	63
0.80	87	80	75	87	80	75	85	79	75	70
1.00	93	85	81	92	85	81	90	85	80	75
1.25	97	91	86	96	90	86	94	89	85	80
1.50	101	94	90	99	93	89	97	92	88	83
2.00	104	99	95	103	98	94	100	95	92	86
2.50	107	102	98	105	100	97	101	98	95	88
3.00	109	104	101	107	103	99	103	100	97	90
4.00	111	108	105	109	106	103	105	103	100	93
5.00	113	110	107	111	108	106	106	104	103	94
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004				Suspended				SHRNOM = 1.25		

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 24DEG
 Operators: TGB
 Test Date: 2015-06-18

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.269
 Humidity: 65%
 Test Distance: 8.400m [K=1.0000]
 Remarks:

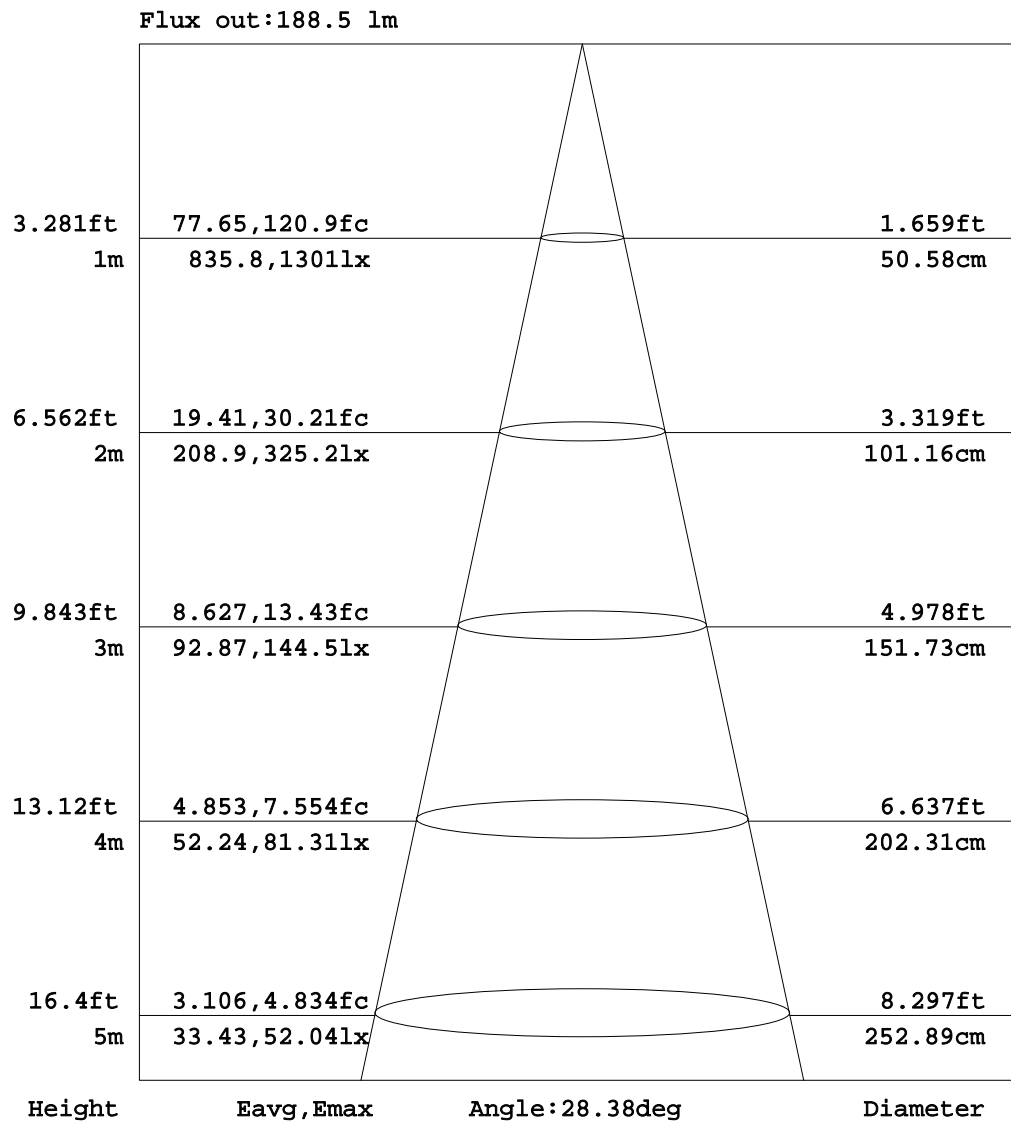
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:24DEG
Operators:TGB
Test Date:2015-06-18

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.269
Humidity:65%
Test Distance:8.400m [K=1.0000]
Remarks:

AAI Figure

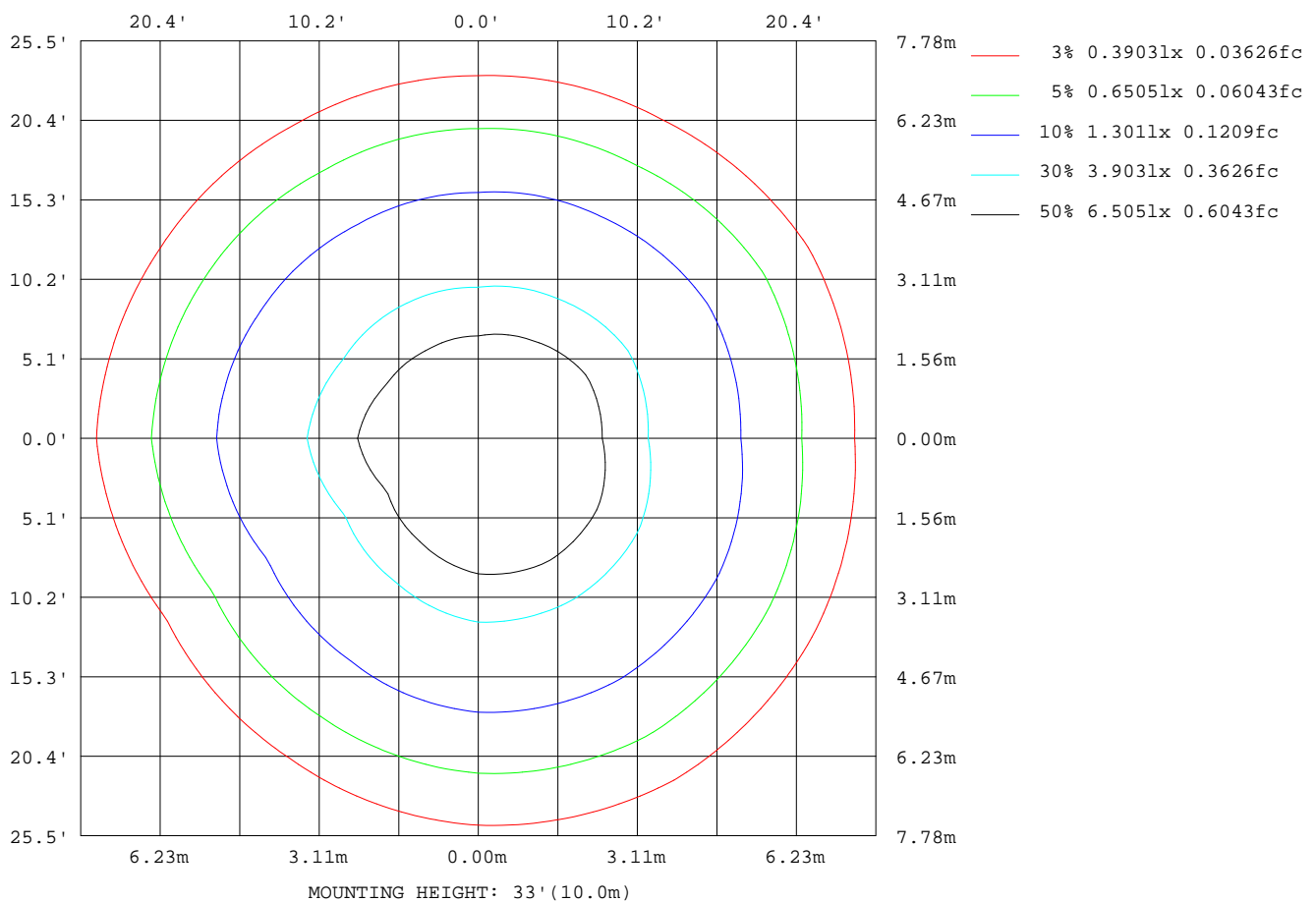


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:24DEG
Operators:TGB
Test Date:2015-06-18

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.269
Humidity:65%
Test Distance:8.400m [K=1.0000]
Remarks:

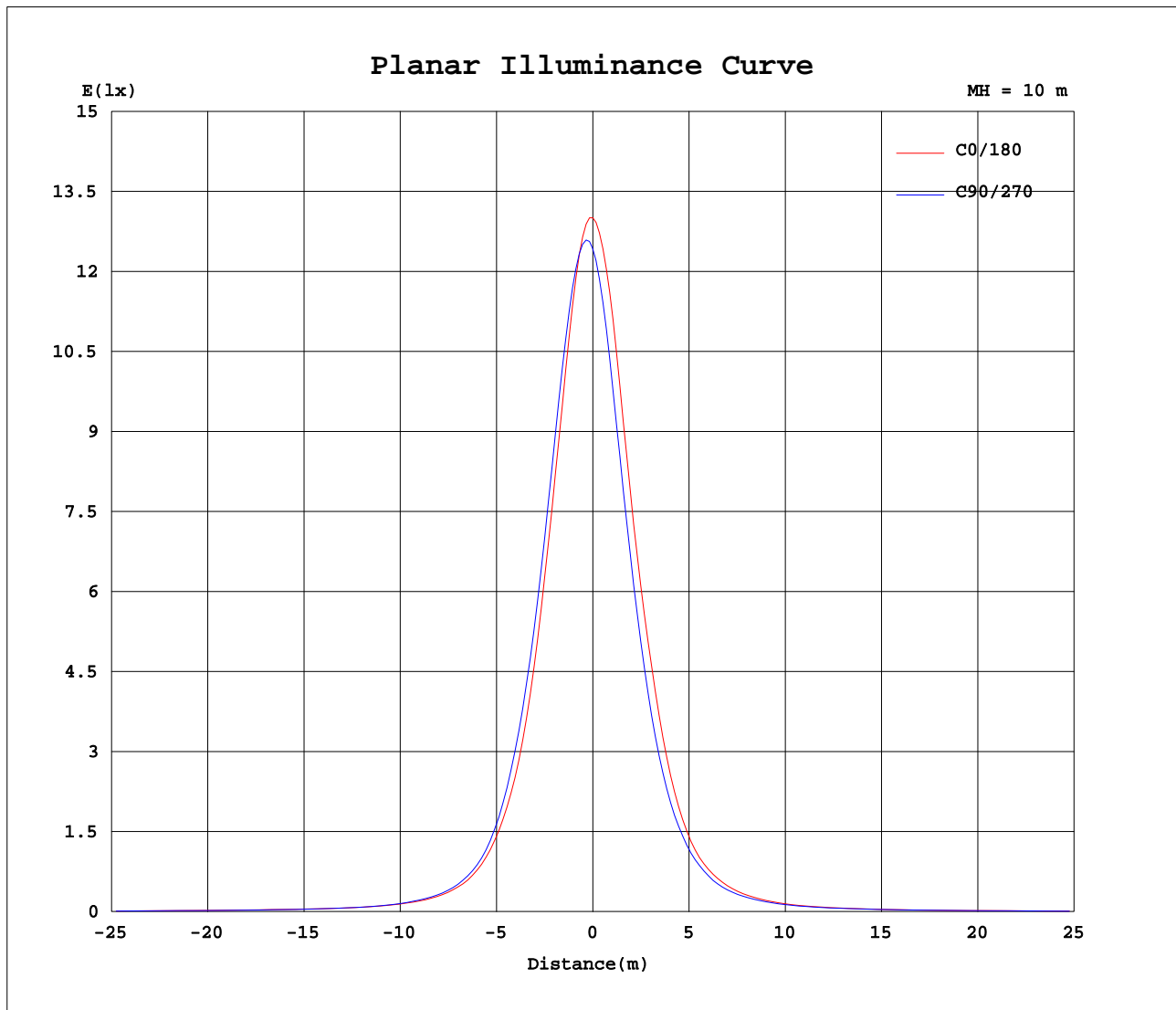
ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 24DEG
Operators: TGB
Test Date: 2015-06-18

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.269
Humidity: 65%
Test Distance: 8.400m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 24DEG
Operators: TGB
Test Date: 2015-06-18

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.269
Humidity: 65%
Test Distance: 8.400m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330						
0	1301	1281	1264	1243	1228	1219	1301	1281	1264	1243	1228	1219						
5	1201	1255	1258	1219	1137	1057	1175	1088	1054	1049	1101	1175						
10	925	1027	1057	1003	880	781	895	795	761	764	832	931						
15	631	733	758	713	598	525	619	534	512	508	562	644						
20	387	465	477	459	369	319	394	337	327	314	352	405						
25	233	280	289	274	217	185	232	204	191	191	213	240						
30	137	159	167	155	130	113	138	126	116	117	125	144						
35	84.3	94.7	101	93.5	80.7	72.7	87.9	79.4	74.5	74.2	78.1	88.5						
40	56.1	61.7	64.3	61.3	55.0	49.8	59.5	54.8	52.5	51.5	52.5	58.5						
45	41.0	44.3	45.6	43.3	39.8	36.2	41.7	39.3	37.9	37.5	38.9	42.2						
50	32.5	34.4	34.2	32.9	31.1	28.6	32.0	30.1	30.0	29.3	30.7	32.7						
55	28.6	29.4	29.4	28.0	26.5	24.6	26.6	25.1	25.0	25.6	26.4	28.1						
60	28.2	28.6	28.3	26.1	24.2	22.9	23.2	22.3	22.6	23.4	24.5	26.7						
65	27.2	28.3	27.7	25.7	23.7	21.8	22.8	21.6	21.3	22.1	24.2	26.1						
70	23.3	25.1	25.1	23.3	21.1	18.9	20.6	18.7	17.9	19.0	20.9	22.7						
75	17.2	19.5	19.8	18.4	15.8	13.5	15.8	13.3	12.5	13.5	15.5	17.5						
80	10.6	13.0	13.2	12.2	9.85	7.75	9.94	7.33	6.74	7.52	9.41	11.5						
85	4.61	6.53	7.09	6.28	4.34	2.59	4.11	2.09	1.54	2.09	3.62	5.49						
90	0.00	1.05	1.58	1.10	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.40						
95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
115	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
130	0.04	0.00	0.00	0.00	0.00	0.13	0.01	0.10	0.17	0.07	0.00	0.00						
135	0.51	0.38	0.27	0.33	0.42	0.62	0.46	0.59	0.67	0.57	0.42	0.23						
140	1.09	0.94	0.81	0.88	0.99	1.20	1.02	1.16	1.24	1.12	0.96	0.74						
145	1.71	1.55	1.41	1.49	1.59	1.80	1.63	1.74	1.82	1.70	1.55	1.32						
150	2.28	2.14	1.99	2.06	2.15	2.32	2.19	2.25	2.31	2.20	2.08	1.87						
155	2.74	2.63	2.49	2.55	2.59	2.72	2.65	2.66	2.70	2.59	2.51	2.34						
160	3.07	3.00	2.86	2.91	2.90	2.99	2.99	2.93	2.96	2.84	2.81	2.67						
165	3.26	3.22	3.09	3.12	3.06	3.06	3.19	3.08	3.06	2.96	2.92	2.87						
170	3.33	3.31	3.18	3.15	3.09	3.05	3.28	3.12	3.07	2.96	2.95	2.93						
175	3.32	3.33	3.20	3.14	3.05	3.00	3.31	3.14	3.10	2.96	2.95	2.93						
180	3.34	3.33	3.20	3.13	3.03	3.02	3.40	3.26	3.23	3.08	3.05	2.99						

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 24DEG
 Operators: TGB
 Test Date: 2015-06-18

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.269
 Humidity: 65%
 Test Distance: 8.400m [K=1.0000]
 Remarks:

Photometric Data Table [cd]

G/C	0.0	30.0	60.0	90.0	120.0	150.0	180.0	210.0	240.0	270.0
0.0	1301	1281	1264	1243	1228	1219	1301	1281	1264	1243
3.0	1270	1297	1289	1256	1198	1146	1248	1184	1155	1147
6.0	1155	1219	1228	1189	1095	1005	1129	1033	995.8	992.8
9.0	984.5	1080	1106	1058	938.1	837.2	953.6	853.5	818.3	819.9
12.0	805.3	910.3	944.8	888.4	763.0	673.0	776.3	681.0	653.8	654.8
15.0	630.9	732.6	758.0	713.5	598.3	524.7	619.3	534.2	512.0	508.1
18.0	474.6	564.6	579.3	552.8	452.6	392.8	480.7	408.5	394.3	382.2
21.0	349.2	420.1	432.4	416.8	332.1	285.8	356.7	303.6	295.0	283.9
24.0	258.0	309.2	319.4	305.3	240.6	208.0	259.4	224.7	215.2	210.8
27.0	188.8	225.5	232.3	219.2	175.9	150.7	186.5	168.0	155.0	155.5
30.0	137.1	159.1	167.5	155.1	129.6	113.4	138.1	125.8	115.5	117.3
33.0	100.4	115.9	123.0	114.0	96.11	86.12	105.1	94.49	88.07	87.98
36.0	77.31	86.55	91.51	85.15	74.04	67.18	80.84	73.52	69.09	68.36
39.0	60.41	66.70	69.88	66.06	58.77	53.61	63.90	58.85	56.31	55.05
42.0	48.98	53.63	55.33	53.40	48.29	43.33	51.23	47.42	46.04	45.14
45.0	40.97	44.35	45.64	43.31	39.81	36.22	41.66	39.34	37.93	37.53
48.0	35.08	37.96	38.02	36.07	33.85	31.10	35.36	33.41	32.60	32.13
51.0	31.42	32.79	32.89	31.84	29.72	27.67	30.50	29.01	28.86	28.38
54.0	29.08	29.89	30.10	28.66	27.11	25.42	27.36	26.08	25.82	26.24
57.0	28.25	29.03	28.45	26.99	25.44	23.38	24.91	23.69	23.78	24.46
60.0	28.23	28.62	28.26	26.13	24.20	22.91	23.15	22.34	22.55	23.37
63.0	27.71	28.46	27.98	25.96	23.97	22.34	22.80	22.08	22.07	22.90
66.0	26.71	27.88	27.47	25.28	23.45	21.63	22.60	21.17	20.73	21.60
69.0	24.32	25.87	25.90	23.88	21.77	19.79	21.33	19.61	18.61	19.93
72.0	21.02	23.18	23.18	21.72	19.23	16.79	18.96	16.61	15.87	16.88
75.0	17.20	19.47	19.77	18.38	15.79	13.53	15.77	13.31	12.50	13.50
78.0	13.18	15.58	15.88	14.72	12.22	9.994	12.35	9.642	8.993	9.902
81.0	9.339	11.64	11.98	11.01	8.732	6.655	8.756	6.228	5.640	6.360
84.0	5.762	7.755	8.228	7.425	5.441	3.520	5.258	3.083	2.463	3.118
87.0	2.399	4.186	4.738	4.071	2.367	0.7290	1.999	0.1174	0	0.0723
90.0	0.0046	1.046	1.579	1.099	0.0060	0	0	0	0	0
93.0	0	0	0	0	0	0	0	0	0	0
96.0	0	0	0	0	0	0	0	0	0	0
99.0	0	0	0	0	0	0	0	0	0	0
102.0	0	0	0	0	0	0	0	0	0	0
105.0	0	0	0	0	0	0	0	0	0	0
108.0	0	0	0	0	0	0	0	0	0	0
111.0	0	0	0	0	0	0	0	0	0	0
114.0	0	0	0	0	0	0	0	0	0	0
117.0	0	0	0	0	0	0	0	0	0	0
120.0	0	0	0	0	0	0	0	0	0	0
123.0	0	0	0	0	0	0	0	0	0	0
126.0	0	0	0	0	0	0	0	0	0	0
129.0	0	0	0	0	0	0.0421	0.0001	0.0139	0.0875	0
132.0	0.2148	0.1115	0.0138	0.0628	0.1349	0.3098	0.1709	0.2777	0.3587	0.2533
135.0	0.5102	0.3835	0.2738	0.3347	0.4233	0.6236	0.4603	0.5904	0.6656	0.5660
138.0	0.8516	0.7033	0.5769	0.6511	0.7543	0.9677	0.7906	0.9285	1.006	0.8972
141.0	1.223	1.054	0.9244	0.9915	1.116	1.322	1.141	1.283	1.357	1.245
144.0	1.592	1.424	1.286	1.361	1.473	1.684	1.507	1.637	1.706	1.596
147.0	1.951	1.789	1.652	1.722	1.822	2.018	1.858	1.958	2.025	1.916
150.0	2.284	2.136	1.992	2.063	2.149	2.317	2.188	2.254	2.313	2.201
153.0	2.573	2.446	2.305	2.370	2.423	2.568	2.478	2.507	2.557	2.451
156.0	2.817	2.714	2.577	2.630	2.664	2.783	2.728	2.720	2.762	2.650
159.0	3.019	2.932	2.796	2.845	2.848	2.950	2.929	2.883	2.915	2.803
162.0	3.165	3.107	2.966	3.006	2.980	3.036	3.079	3.005	3.023	2.908
165.0	3.263	3.225	3.092	3.117	3.064	3.063	3.193	3.082	3.055	2.960
168.0	3.308	3.301	3.158	3.136	3.088	3.075	3.256	3.110	3.063	2.960
171.0	3.325	3.317	3.190	3.155	3.086	3.036	3.284	3.122	3.070	2.960
174.0	3.323	3.324	3.194	3.137	3.068	3.010	3.308	3.133	3.089	2.957
177.0	3.322	3.332	3.197	3.130	3.037	2.991	3.346	3.165	3.134	2.974
180.0	3.339	3.332	3.197	3.130	3.030	3.016	3.402	3.256	3.231	3.082
G/C	300.0	330.0								
0.0	1228	1219								
3.0	1176	1218								
6.0	1054	1139								
9.0	890.0	987.9								
12.0	718.5	812.9								
15.0	561.6	643.9								
18.0	427.2	495.4								
21.0	319.3	367.1								
24.0	237.3	268.7								
27.0	170.1	195.9								
30.0	124.6	144.4								

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 24DEG
 Operators: TGB
 Test Date: 2015-06-18

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.269
 Humidity: 65%
 Test Distance: 8.400m [K=1.0000]
 Remarks:

Photometric Data Table [cd]

33.0	93.13	107.7
36.0	71.50	80.55
39.0	56.43	63.00
42.0	46.23	50.87
45.0	38.86	42.18
48.0	33.41	35.56
51.0	29.62	31.43
54.0	27.10	28.36
57.0	25.44	27.42
60.0	24.52	26.67
63.0	24.29	26.34
66.0	23.87	25.65
69.0	21.77	23.52
72.0	18.98	21.01
75.0	15.50	17.54
78.0	11.80	13.95
81.0	8.241	10.26
84.0	4.764	6.649
87.0	1.561	3.294
90.0	0	0.4006
93.0	0	0
96.0	0	0
99.0	0	0
102.0	0	0
105.0	0	0
108.0	0	0
111.0	0	0
114.0	0	0
117.0	0	0
120.0	0	0
123.0	0	0
126.0	0	0
129.0	0	0
132.0	0.1361	0
135.0	0.4185	0.2253
138.0	0.7418	0.5250
141.0	1.079	0.8552
144.0	1.431	1.202
147.0	1.778	1.555
150.0	2.084	1.871
153.0	2.356	2.170
156.0	2.571	2.414
159.0	2.762	2.612
162.0	2.887	2.772
165.0	2.924	2.866
168.0	2.943	2.918
171.0	2.947	2.926
174.0	2.952	2.927
177.0	2.978	2.929
180.0	3.054	2.988

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 24DEG
 Operators: TGB
 Test Date: 2015-06-18

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.269
 Humidity: 65%
 Test Distance: 8.400m [K=1.0000]
 Remarks: