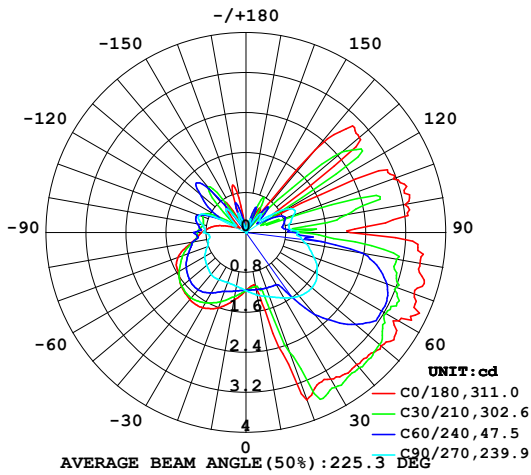


LUMINAIRE PHOTOMETRIC TEST REPORT

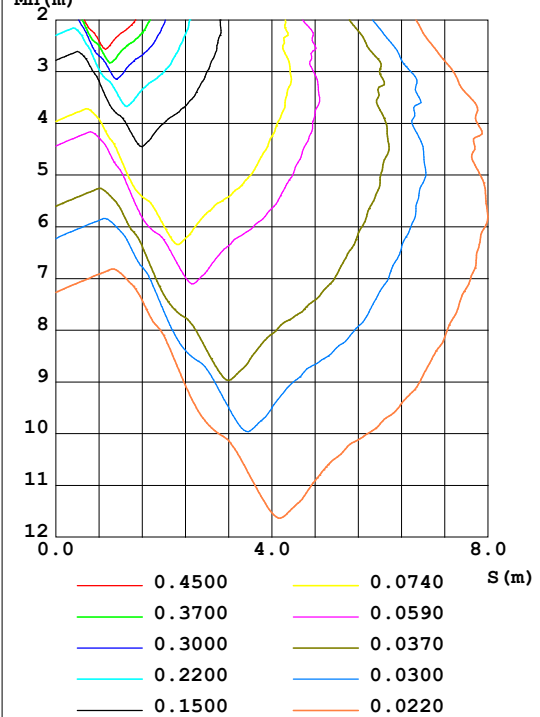
Test:U:120.31V I:0.1288A P:15.497W PF:1.0000 Freq:59.98Hz Lamp Flux:17.1229x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Libo	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 1.10 lm/W
MODEL	91064MRSN	I _{max} (cd)	3.830	S/MH (C0/180)	2.06	
NOMINAL POWER (W)	15	LOR (%)	100.0	S/MH (C90/270)	1.46	
RATED VOLTAGE (V)	120	TOTAL FLUX (lm)	17.123	h UP,DN (C0-180)	16.1,38.1	
NOMINAL FLUX (lm)	17.1229	CIE CLASS	SEMI-D.	h UP,DN (C180-360)	14.7,31.0	
LAMPS INSIDE	1	h up (%)	30.8	CIBSE SHR NOM	0.75	
TEST VOLTAGE (V)	120.0	h down (%)	69.2	CIBSE SHR MAX	0.95	

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: Jack
Test Date: 21 May 2018

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.0.402
Humidity: 65.0%
Test Distance: 3.010m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

g	C0	C45	C90	C135	C180	C225	C270	C315	g	F zone	F total	%lum,lamp
10	1.101	1.128	1.269	1.252	1.372	1.251	1.097	0.9365	0~ 10	0.1103	0.1103	0.64,0.64
20	3.565	1.219	1.369	1.456	1.603	1.374	1.066	1.294	10~ 20	0.3968	0.5071	2.96,2.96
30	3.385	3.258	1.511	1.627	1.740	1.535	1.091	2.940	20~ 30	0.8683	1.375	8.03,8.03
40	3.449	3.620	1.659	1.732	1.753	1.650	1.093	2.771	30~ 40	1.304	2.680	15.7,15.7
50	3.534	3.574	1.725	1.732	1.684	1.636	1.022	2.733	40~ 50	1.681	4.361	25.5,25.5
60	3.535	3.443	1.645	1.644	1.567	1.502	0.9569	2.594	50~ 60	1.921	6.282	36.7,36.7
70	3.586	3.268	1.449	1.492	1.447	1.361	0.8235	2.695	60~ 70	2.036	8.318	48.6,48.6
80	3.537	2.961	1.201	1.217	1.088	1.123	0.7569	2.604	70~ 80	1.990	10.31	60.2,60.2
90	2.083	1.024	1.059	0.8849	0.8932	0.8742	0.8521	0.7515	80~ 90	1.536	11.84	69.2,69.2
100	3.234	1.631	0.8665	0.4143	0.6853	0.7728	0.8772	1.757	90~100	1.148	12.99	75.9,75.9
110	3.140	2.778	1.012	0.1421	0.3667	0.5491	0.9993	0.4481	100~110	1.392	14.38	84,84
120	0.6833	1.671	0.9402	0.0959	0.1808	0.1496	0.4121	0.5201	110~120	0.8783	15.26	89.1,89.1
130	2.965	0.3822	0.3857	0.5319	0.2247	0.8276	0.3530	0.9955	120~130	0.6825	15.95	93.1,93.1
140	2.165	0.0923	0.4771	0.6661	0.5734	0.7699	0.6185	0.0385	130~140	0.7553	16.70	97.5,97.5
150	0.5614	0.2032	0.1107	0	0.3444	0	0.1769	0.4350	140~150	0.2507	16.95	99,99
160	0.0003	0.0682	0.2843	0.2129	0.6551	0.3521	0.3570	0.0378	150~160	0.1045	17.06	99.6,99.6
170	0	0	0.0758	0.0901	0.3459	0.0950	0.0299	0	160~170	0.0654	17.12	100,100
180	0	0	0	0	0	0	0	0	170~180	0.0020	17.12	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jack
 Test Date:21 May 2018

g Range: 0 - 180DEG
 g Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.0.402
 Humidity:65.0%
 Test Distance:3.010m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:120.31V I:0.1288A P:15.497W PF:1.0000 Freq:59.98Hz Lamp Flux:17.1229x1 lm											
NAME:					TYPE:			WEIGHT:			
SPEC.:					DIM.:			SERIAL No.:			
MFR.: Libo					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	3.3	4.6	4.0	5.3	6.1	-0.0	1.3	0.6	2.0	2.8	
	3H	6.5	7.7	7.2	8.4	9.3	1.7	2.9	2.4	3.6	4.5
	4H	8.4	9.5	9.1	10.2	11.1	2.6	3.8	3.3	4.5	5.4
	6H	10.4	11.5	11.1	12.2	13.1	3.9	5.0	4.6	5.7	6.6
	8H	11.4	12.5	12.2	13.2	14.1	4.7	5.7	5.4	6.5	7.4
	12H	12.7	13.7	13.4	14.5	15.4	5.6	6.6	6.4	7.4	8.3
4H	2H	4.2	5.4	4.9	6.1	7.0	2.4	3.5	3.1	4.3	5.1
	3H	7.5	8.5	8.3	9.3	10.2	4.7	5.7	5.5	6.5	7.4
	4H	9.5	10.4	10.2	11.2	12.1	5.7	6.7	6.5	7.4	8.4
	6H	11.7	12.5	12.5	13.3	14.3	6.7	7.5	7.4	8.3	9.3
	8H	12.7	13.4	13.5	14.2	15.2	7.2	7.9	8.0	8.8	9.8
	12H	14.1	14.8	14.9	15.6	16.6	7.9	8.6	8.7	9.4	10.5
8H	4H	10.0	10.8	10.8	11.6	12.6	7.4	8.2	8.3	9.0	10.0
	6H	12.5	13.1	13.3	14.0	15.0	8.9	9.5	9.7	10.4	11.4
	8H	13.6	14.2	14.5	15.1	16.1	9.4	10.0	10.2	10.8	11.9
	12H	15.2	15.7	16.0	16.5	17.6	10.0	10.5	10.9	11.4	12.5
12H	4H	10.1	10.8	10.9	11.6	12.6	7.9	8.6	8.7	9.4	10.4
	6H	12.7	13.2	13.5	14.1	15.2	9.6	10.1	10.4	11.0	12.0
	8H	13.9	14.4	14.7	15.3	16.3	10.2	10.7	11.0	11.6	12.6
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.0					
1.5H	+ 0.2 / - 0.2					+ 0.1 / - 0.1					
2.0H	+ 0.3 / - 0.4					+ 0.3 / - 0.2					

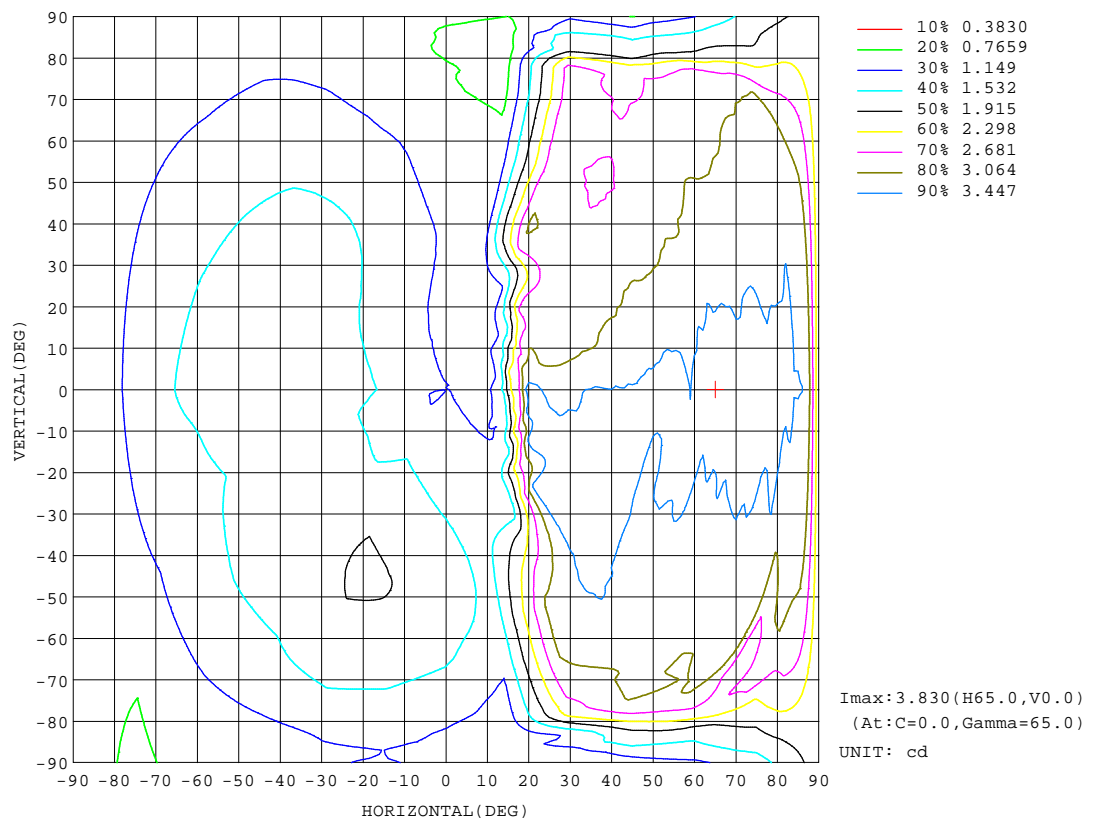
CIE Pub.117, 17.12 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = -14.1$)

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jack
 Test Date:21 May 2018

g Range: 0 - 180DEG
 g Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.0.402
 Humidity:65.0%
 Test Distance:3.010m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:120.31V I:0.1288A P:15.497W PF:1.0000 Freq:59.98Hz Lamp Flux:17.1229x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Libo	SUR.:	Shielding Angle:

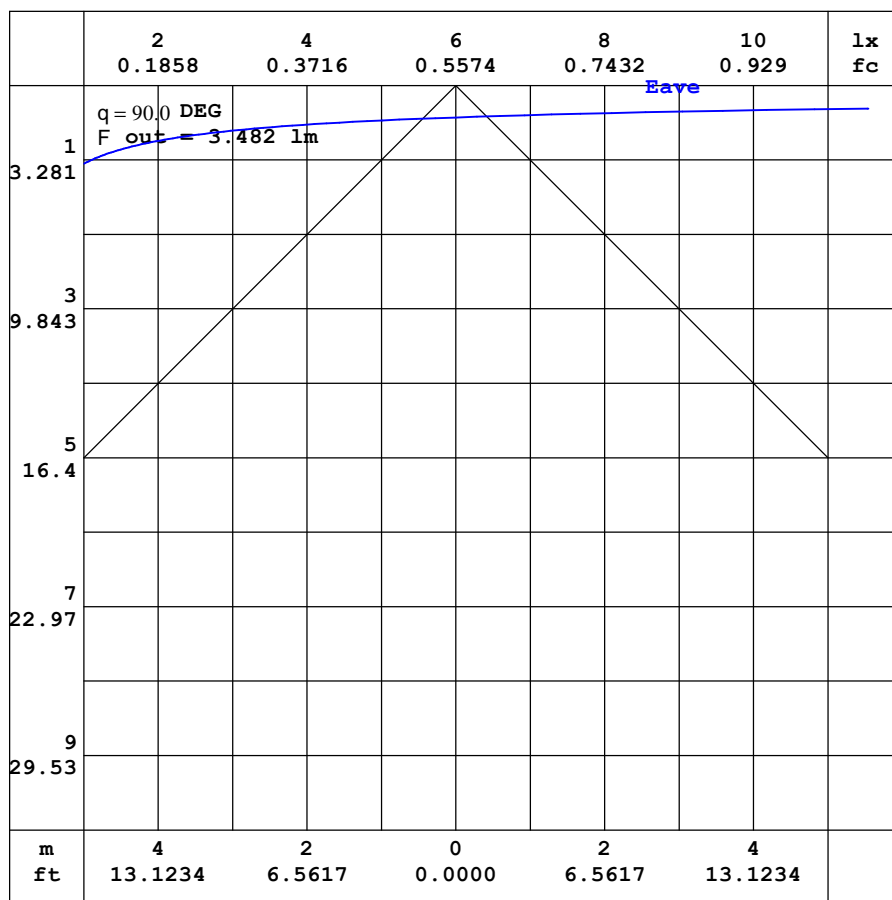


C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Jack
Test Date: 21 May 2018

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.0.402
Humidity: 65.0%
Test Distance: 3.010m [K=1.0000]
Remarks:

AAI CURVES

Test:U:120.31V I:0.1288A P:15.497W PF:1.0000 Freq:59.98Hz Lamp Flux:17.1229x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Libo	SUR.:	Shielding Angle:



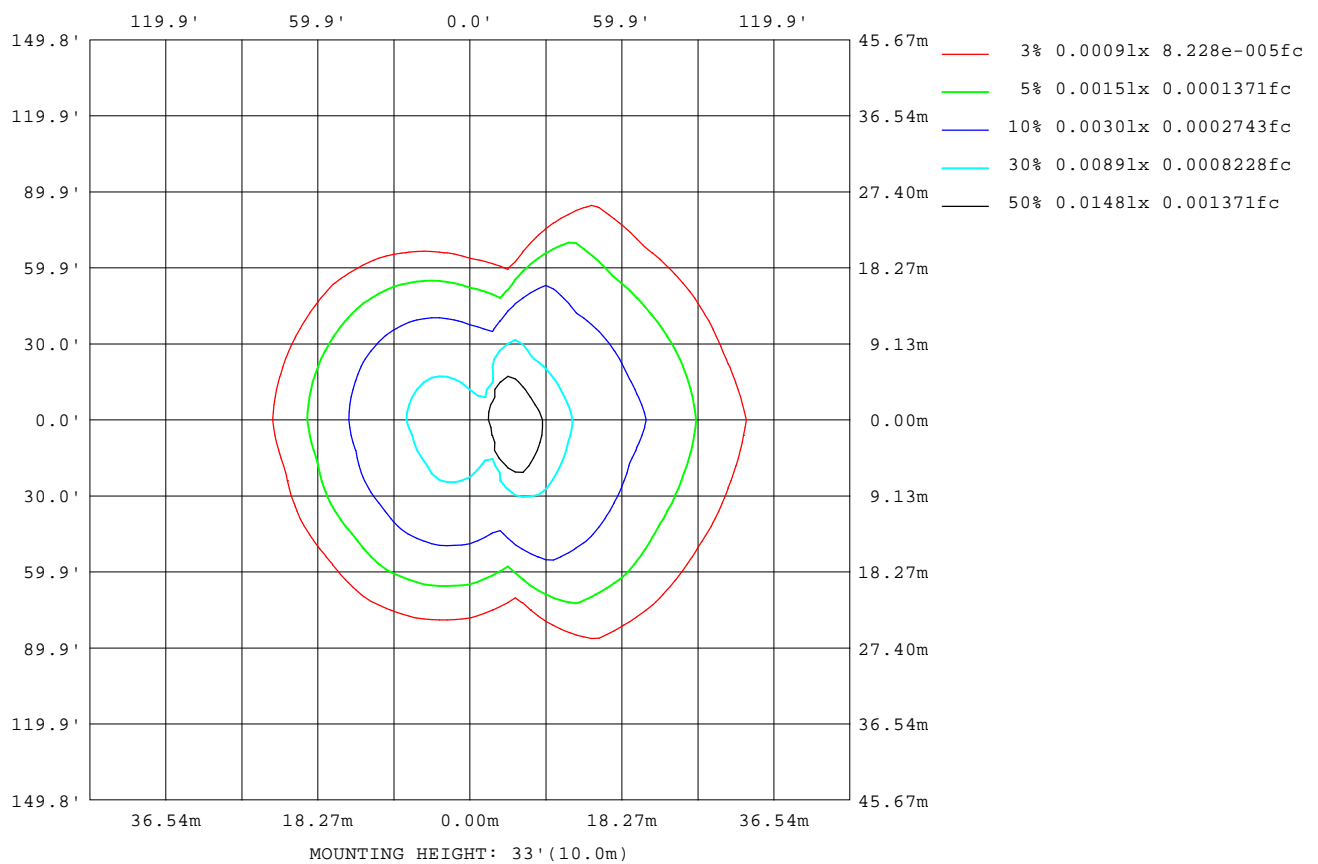
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Jack
Test Date: 21 May 2018

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.0.402
Humidity: 65.0%
Test Distance: 3.010m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:120.31V I:0.1288A P:15.497W PF:1.0000 Freq:59.98Hz Lamp Flux:17.1229x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Libo	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jack
Test Date:21 May 2018

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.0.402
Humidity:65.0%
Test Distance:3.010m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:120.31V I:0.1288A P:15.497W PF:1.0000 Freq:59.98Hz Lamp Flux:17.1229x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Libo	SUR.:	Shielding Angle:

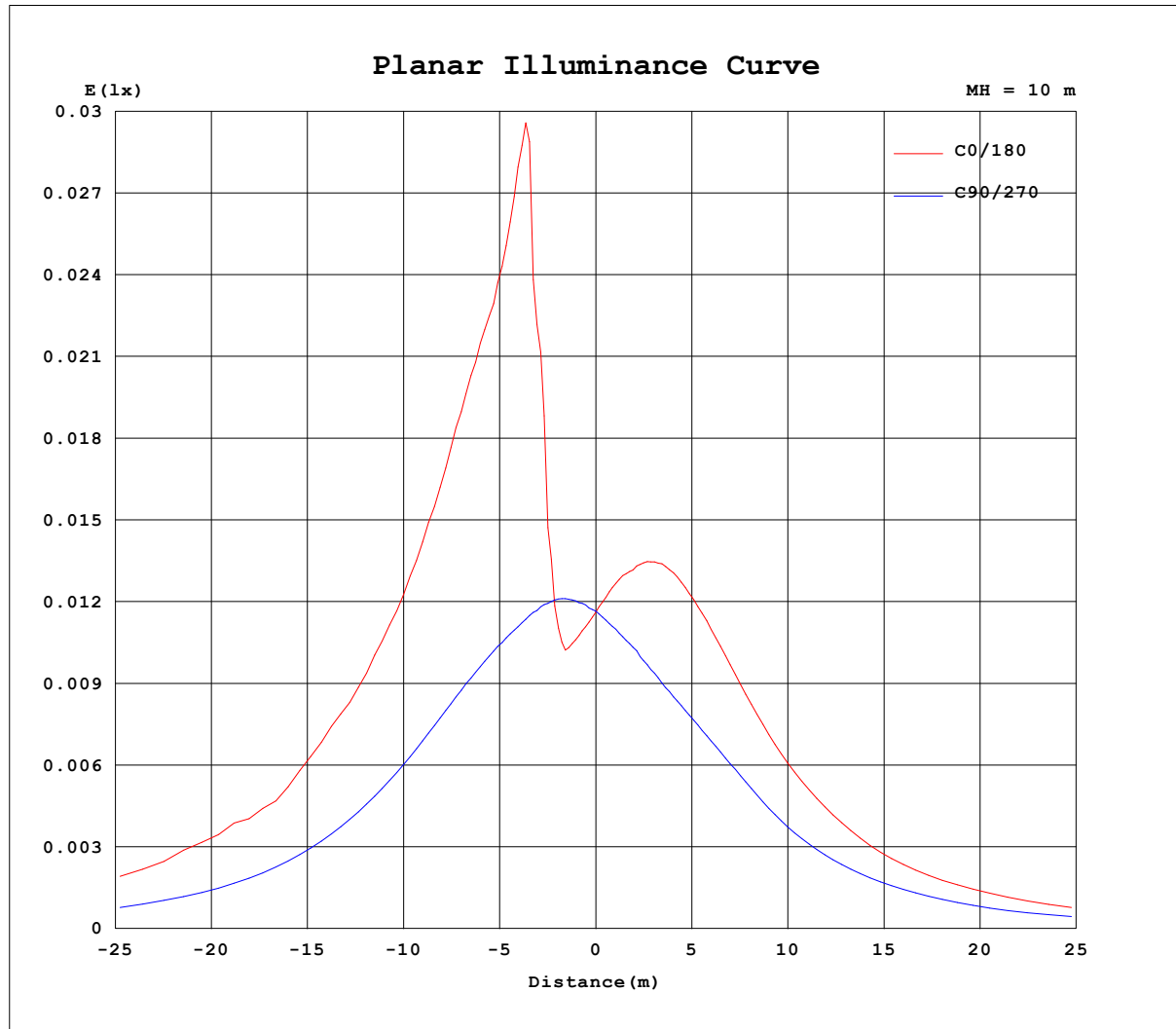
AvgL	cd/m2
L_0~180 (65) av	64
L_0~180 (75) av	96
L_0~180 (85) av	254
L_90~270 (65) av	29
L_90~270 (75) av	41
L_90~270 (85) av	106
L_45 (65) av	54
L_45 (75) av	81
L_45 (85) av	151

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jack
Test Date:21 May 2018

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.0.402
Humidity:65.0%
Test Distance:3.010m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Jack
 Test Date: 21 May 2018

g Range: 0 - 180DEG
 g Interval: 1.0DEG
 Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.0.402
 Humidity: 65.0%
 Test Distance: 3.010m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.31V I:0.1288A P:15.497W PF:1.0000 Freq:59.98Hz Lamp Flux:17.1229x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Libo	SUR.:	Shielding Angle:

Table--1

UNIT: cd

C (DEG) g (DEG)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270
0	1.16	1.17	1.16	1.16	1.15	1.16	1.17	1.17	1.17	1.05	1.06	1.06	1.16	1.17	1.16	1.16	1.15	1.16	1.17
5	1.09	1.10	1.12	1.14	1.16	1.18	1.21	1.24	1.26	1.14	1.16	1.16	1.27	1.25	1.23	1.20	1.17	1.14	1.12
10	1.10	1.08	1.10	1.13	1.16	1.21	1.27	1.31	1.36	1.25	1.27	1.27	1.37	1.34	1.30	1.25	1.19	1.14	1.10
15	2.09	1.54	1.16	1.14	1.17	1.24	1.32	1.39	1.46	1.35	1.39	1.39	1.50	1.45	1.38	1.30	1.22	1.14	1.08
20	3.56	3.42	2.55	1.22	1.19	1.26	1.37	1.47	1.55	1.46	1.50	1.49	1.60	1.55	1.47	1.37	1.26	1.16	1.07
25	3.37	3.51	3.66	2.60	1.19	1.29	1.43	1.56	1.66	1.55	1.58	1.57	1.68	1.63	1.55	1.45	1.32	1.20	1.08
30	3.39	3.49	3.58	3.26	1.21	1.33	1.51	1.66	1.77	1.63	1.64	1.62	1.74	1.69	1.62	1.53	1.40	1.24	1.09
35	3.45	3.47	3.54	3.66	1.54	1.37	1.59	1.75	1.86	1.69	1.68	1.64	1.76	1.73	1.68	1.61	1.46	1.27	1.10
40	3.45	3.51	3.53	3.62	2.14	1.40	1.66	1.84	1.92	1.73	1.70	1.64	1.75	1.73	1.71	1.65	1.50	1.27	1.09
45	3.47	3.50	3.54	3.60	2.52	1.42	1.71	1.89	1.96	1.74	1.70	1.61	1.72	1.70	1.70	1.66	1.50	1.26	1.05
50	3.53	3.46	3.49	3.57	2.86	1.42	1.73	1.91	1.95	1.73	1.68	1.58	1.68	1.68	1.68	1.64	1.48	1.24	1.02
55	3.63	3.51	3.34	3.55	3.11	1.39	1.71	1.89	1.91	1.70	1.64	1.54	1.62	1.62	1.63	1.58	1.43	1.22	0.99
60	3.53	3.54	3.24	3.44	3.14	1.33	1.64	1.82	1.85	1.64	1.58	1.49	1.57	1.56	1.54	1.50	1.38	1.18	0.96
65	3.83	3.32	3.34	3.39	3.12	1.26	1.57	1.73	1.76	1.56	1.52	1.41	1.54	1.49	1.45	1.44	1.31	1.10	0.89
70	3.59	3.38	3.21	3.27	3.00	1.15	1.45	1.61	1.65	1.49	1.42	1.32	1.45	1.38	1.34	1.36	1.23	1.03	0.82
75	3.69	3.29	3.13	3.13	2.76	1.07	1.32	1.48	1.51	1.37	1.29	1.15	1.28	1.23	1.22	1.25	1.14	0.97	0.78
80	3.54	3.32	3.06	2.96	2.37	0.98	1.20	1.33	1.37	1.22	1.12	0.94	1.09	1.07	1.06	1.12	1.08	0.91	0.76
85	3.46	2.74	2.20	1.78	1.21	0.91	1.10	1.21	1.16	1.01	0.98	0.78	0.97	0.93	0.99	0.94	0.97	0.89	0.74
90	2.08	1.36	1.08	1.02	0.98	0.89	1.06	1.18	1.12	0.88	0.86	0.71	0.89	0.87	0.97	0.87	1.06	1.01	0.85
95	2.96	1.87	0.94	0.81	0.80	0.80	0.88	0.93	0.86	0.66	0.64	0.64	0.79	0.79	0.93	0.78	0.92	0.90	0.82
100	3.23	3.16	2.04	1.63	0.75	0.80	0.87	0.94	0.87	0.41	0.49	0.56	0.69	0.75	0.87	0.77	0.98	0.98	0.88
105	3.27	2.96	2.78	2.08	0.80	0.86	0.94	0.95	0.81	0.14	0.40	0.39	0.55	0.71	0.88	0.73	1.05	1.06	0.97
110	3.14	2.88	0.44	2.78	0.84	0.87	1.01	0.98	0.75	0.14	0.31	0.20	0.37	0.65	0.92	0.55	1.02	1.16	1.00
115	2.93	2.38	0.39	2.64	0.78	0.89	1.07	1.00	0.49	0.11	0.15	0.09	0.25	0.61	0.90	0.22	0.74	1.11	0.84
120	0.68	0.58	0.47	1.67	0.55	0.75	0.94	0.91	0.37	0.10	0.09	0.03	0.18	0.47	0.65	0.15	0.66	0.77	0.41
125	0.92	1.39	2.85	0.48	0.32	0.65	0.63	0.82	0.48	0.22	0.12	0.06	0.16	0.33	0.32	0.36	0.97	0.79	0.25
130	2.96	2.97	2.52	0.38	0.31	0.61	0.39	0.70	0.83	0.53	0.28	0.18	0.22	0.31	0.45	0.83	1.20	0.89	0.35
135	3.02	2.75	1.04	0.26	0.54	0.75	0.37	0.80	1.20	0.81	0.54	0.34	0.34	0.48	0.88	1.15	1.40	1.01	0.51
140	2.16	1.23	0.22	0.09	0.67	0.90	0.48	0.91	1.04	0.67	0.72	0.56	0.57	0.77	1.18	0.77	1.09	0.96	0.62
145	0.43	0.15	0.08	0.00	0.19	0.57	0.38	0.54	0.22	0.05	0.55	0.65	0.74	0.89	0.83	0.10	0.21	0.43	0.39
150	0.56	0.16	0.64	0.20	0.04	0.21	0.11	0.02	0.00	0.00	0.00	0.18	0.34	0.26	0.08	0.00	0.00	0.02	0.18
155	0.28	0.24	0.72	0.23	0.37	0.66	0.12	0.04	0.10	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.20	0.11	0.36
160	0.00	0.02	0.13	0.07	0.48	0.70	0.28	0.24	0.46	0.21	0.06	0.32	0.66	0.44	0.09	0.35	0.63	0.40	0.36
165	0.00	0.00	0.00	0.00	0.10	0.20	0.23	0.31	0.35	0.28	0.23	0.64	0.98	0.80	0.31	0.32	0.46	0.34	0.18
170	0.00	0.00	0.00	0.00	0.00	0.02	0.08	0.14	0.11	0.09	0.10	0.23	0.35	0.27	0.14	0.09	0.09	0.07	0.03
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jack
Test Date:21 May 2018

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.0.402
Humidity:65.0%
Test Distance:3.010m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.31V I:0.1288A P:15.497W PF:1.0000 Freq:59.98Hz Lamp Flux:17.1229x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Libo	SUR.:	Shielding Angle:

Table--2

UNIT: cd

C (DEG) g (DEG)	285	300	315	330	345														
0	1.17	1.17	1.05	1.06	1.06														
5	1.10	1.09	0.97	0.98	0.99														
10	1.06	1.04	0.94	1.01	1.06														
15	1.03	1.01	1.09	1.38	1.99														
20	1.01	0.99	1.29	2.40	3.19														
25	1.00	0.99	2.51	3.00	2.99														
30	1.00	1.34	2.94	2.92	2.98														
35	1.00	2.13	2.80	2.91	3.02														
40	0.99	2.98	2.77	2.93	3.10														
45	0.96	3.12	2.74	2.97	3.13														
50	0.92	3.01	2.73	2.96	3.22														
55	0.88	2.90	2.65	2.90	3.20														
60	0.85	2.82	2.59	2.93	3.24														
65	0.79	2.83	2.69	2.92	3.28														
70	0.72	2.80	2.70	2.97	3.31														
75	0.69	2.77	2.66	2.91	3.18														
80	0.67	2.65	2.60	2.91	3.17														
85	0.67	1.83	1.55	2.06	3.10														
90	0.76	1.10	0.75	1.14	1.75														
95	0.77	0.92	0.67	1.17	1.44														
100	0.81	1.31	1.76	2.36	1.94														
105	0.88	1.55	2.30	2.69	2.95														
110	0.85	1.60	0.45	2.48	2.82														
115	0.69	0.55	0.26	0.85	2.28														
120	0.42	0.29	0.52	0.48	0.57														
125	0.40	0.22	1.57	2.63	1.24														
130	0.61	0.33	1.00	2.72	2.65														
135	0.88	0.54	0.21	1.78	2.63														
140	0.94	0.47	0.04	0.27	1.76														
145	0.38	0.08	0.02	0.08	0.18														
150	0.27	0.04	0.43	0.49	0.22														
155	0.77	0.23	0.38	0.48	0.17														
160	0.54	0.20	0.04	0.07	0.00														
165	0.11	0.03	0.00	0.00	0.00														
170	0.00	0.00	0.00	0.00	0.00														
175	0.00	0.00	0.00	0.00	0.00														
180	0.00	0.00	0.00	0.00	0.00														

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jack
Test Date:21 May 2018

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.0.402
Humidity:65.0%
Test Distance:3.010m [K=1.0000]
Remarks: