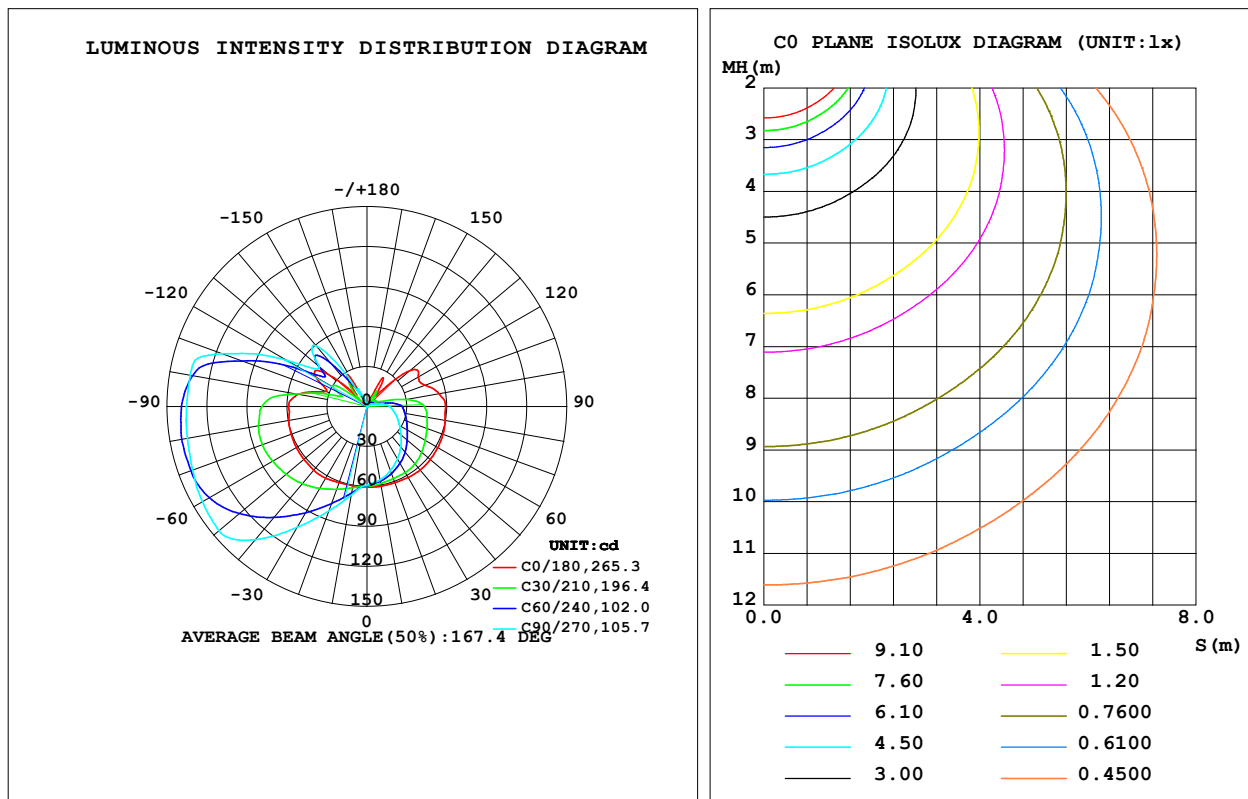


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:120.35V I:0.0831A P:9.3397W PF:0.9339 Freq:59.98Hz Lamp Flux:679.615x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Libo	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 72.77 lm/W			
MODEL	11311FTOI	I _{max} (cd)	147.0	S/MH (C0/180)	1.58
NOMINAL POWER (W)	9	LOR (%)	100.0	S/MH (C90/270)	2.66
RATED VOLTAGE (V)	120	TOTAL FLUX (lm)	679.61	h UP,DN (C0-180)	6.5,20.4
NOMINAL FLUX (lm)	679.615	CIE CLASS	SEMI-D.	h UP,DN (C180-360)	26.2,46.9
LAMPS INSIDE	1	h up (%)	32.7	CIBSE SHR NOM	2.00
TEST VOLTAGE (V)	120.0	h down (%)	67.3	CIBSE SHR MAX	2.00



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:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

g	C0	C45	C90	C135	C180	C225	C270	C315	g	F zone	F total	%lum,lamp
10	60.80	57.84	56.09	56.63	60.52	64.01	67.28	63.18	0~ 10	5.713	5.713	0.84,0.84
20	60.94	55.72	51.40	54.09	60.88	72.08	83.19	72.86	10~ 20	17.61	23.32	3.43,3.43
30	61.57	53.37	45.70	51.77	62.14	81.46	104.7	84.65	20~ 30	30.43	53.75	7.91,7.91
40	62.20	50.23	39.57	48.48	62.41	91.48	130.4	98.49	30~ 40	44.23	97.99	14.4,14.4
50	62.02	46.01	33.55	43.88	61.83	100.9	145.0	113.5	40~ 50	57.82	155.8	22.9,22.9
60	61.52	42.20	28.32	39.86	61.33	109.0	142.7	126.9	50~ 60	68.45	224.3	33,33
70	60.79	39.32	24.20	36.97	60.69	113.7	139.2	134.8	60~ 70	75.29	299.6	44.1,44.1
80	59.59	36.99	20.42	34.56	59.65	114.1	136.9	135.7	70~ 80	78.75	378.3	55.7,55.7
90	59.19	34.80	17.26	32.28	59.04	111.1	135.5	131.9	80~ 90	79.01	457.3	67.3,67.3
100	55.15	27.53	11.98	22.99	52.65	100.9	134.7	120.1	90~100	74.30	531.6	78.2,78.2
110	46.91	12.42	5.848	6.040	33.30	68.16	115.9	73.84	100~110	57.26	588.9	86.6,86.6
120	44.74	4.077	3.731	3.916	44.42	35.00	69.50	36.51	110~120	35.55	624.4	91.9,91.9
130	42.08	2.845	1.693	3.228	36.44	45.59	47.05	45.79	120~130	24.48	648.9	95.5,95.5
140	10.34	6.553	0.8682	7.004	13.83	34.82	59.82	29.54	130~140	16.85	665.8	98,98
150	24.67	0.9880	0.3167	0.5337	25.40	22.92	9.756	24.75	140~150	10.87	676.6	99.6,99.6
160	0.4264	2.737	0.1980	3.516	0.2764	0.6222	5.561	0.4431	150~160	2.600	679.2	99.9,99.9
170	1.753	0.5554	0.2026	0.1245	2.980	0.9319	0.2129	1.061	160~170	0.3124	679.5	100,100
180	0.7575	0.5883	0.3423	0.3498	0.7578	0.5728	0.3560	0.3479	170~180	0.0802	679.6	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:120.35V I:0.0831A P:9.3397W PF:0.9339 Freq:59.98Hz Lamp Flux:679.615x1 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	9.9	11.2	10.6	12.0	12.8	6.3	7.6	7.0	8.3	9.2	
	3H	13.2	14.4	13.9	15.2	16.1	8.6	9.7	9.3	10.5	11.4
	4H	15.1	16.2	15.8	17.0	17.9	9.8	11.0	10.6	11.7	12.6
	6H	17.1	18.2	17.9	19.0	19.9	11.2	12.3	12.0	13.1	14.0
	8H	18.3	19.3	19.0	20.1	21.0	12.0	13.1	12.8	13.8	14.8
	12H	19.6	20.6	20.3	21.4	22.3	13.0	14.0	13.7	14.7	15.7
4H	2H	10.4	11.5	11.1	12.3	13.2	7.9	9.0	8.6	9.7	10.7
	3H	13.9	14.9	14.6	15.7	16.6	10.2	11.2	11.0	12.0	13.0
	4H	15.9	16.9	16.7	17.7	18.7	11.6	12.5	12.3	13.3	14.3
	6H	18.2	19.1	19.1	19.9	20.9	13.0	13.9	13.8	14.7	15.7
	8H	19.5	20.3	20.3	21.1	22.2	13.9	14.6	14.7	15.5	16.5
	12H	21.0	21.7	21.8	22.6	23.6	14.8	15.6	15.7	16.4	17.5
8H	4H	16.2	17.0	17.0	17.8	18.9	12.9	13.6	13.7	14.5	15.5
	6H	18.8	19.5	19.7	20.4	21.4	14.6	15.3	15.4	16.1	17.2
	8H	20.3	20.9	21.2	21.8	22.9	15.6	16.2	16.4	17.1	18.1
	12H	22.1	22.6	23.0	23.5	24.6	16.7	17.2	17.5	18.1	19.2
12H	4H	16.2	17.0	17.1	17.8	18.9	13.4	14.1	14.2	14.9	16.0
	6H	18.9	19.5	19.8	20.4	21.5	15.3	15.9	16.1	16.7	17.8
	8H	20.6	21.1	21.4	22.0	23.1	16.4	16.9	17.2	17.8	18.9
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 / - 0.2					
2.0H	+ 0.3 / - 0.4					+ 0.3 / - 0.4					

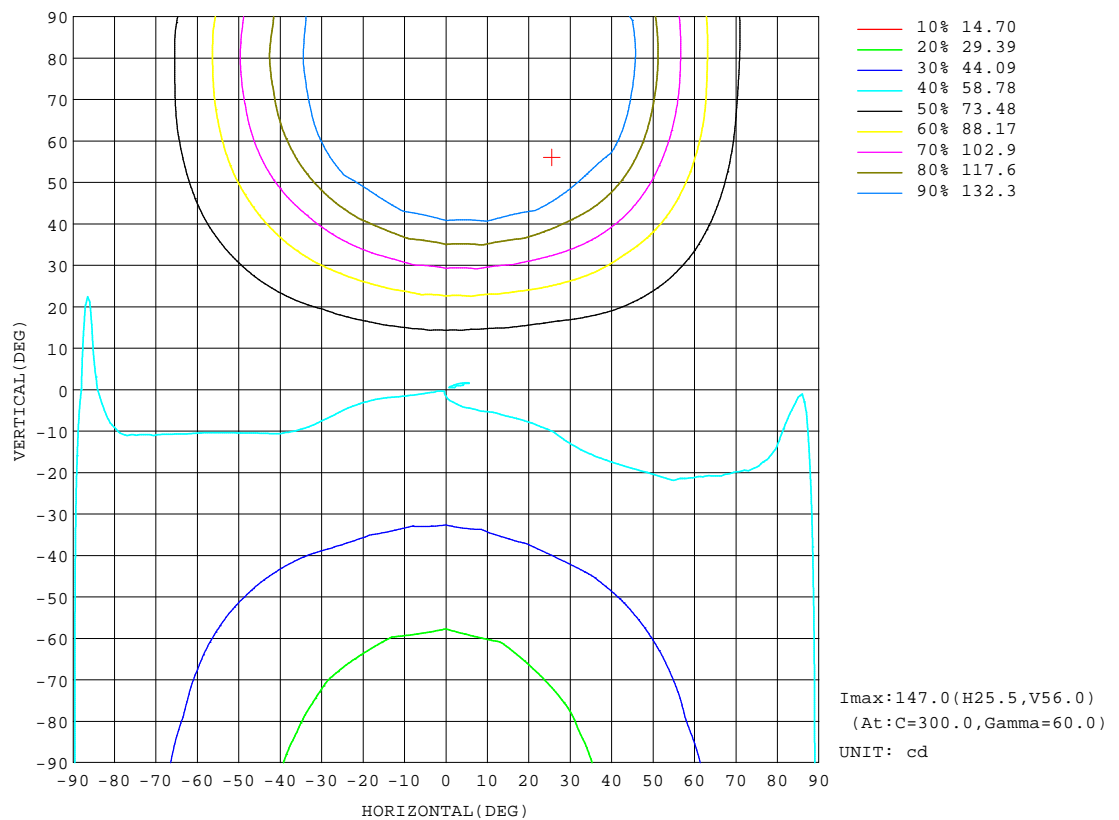
CIE Pub.117, 679.6 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = -1.3$)

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:120.35V I:0.0831A P:9.3397W PF:0.9339 Freq:59.98Hz Lamp Flux:679.615x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Libo	SUR.:	Shielding Angle:

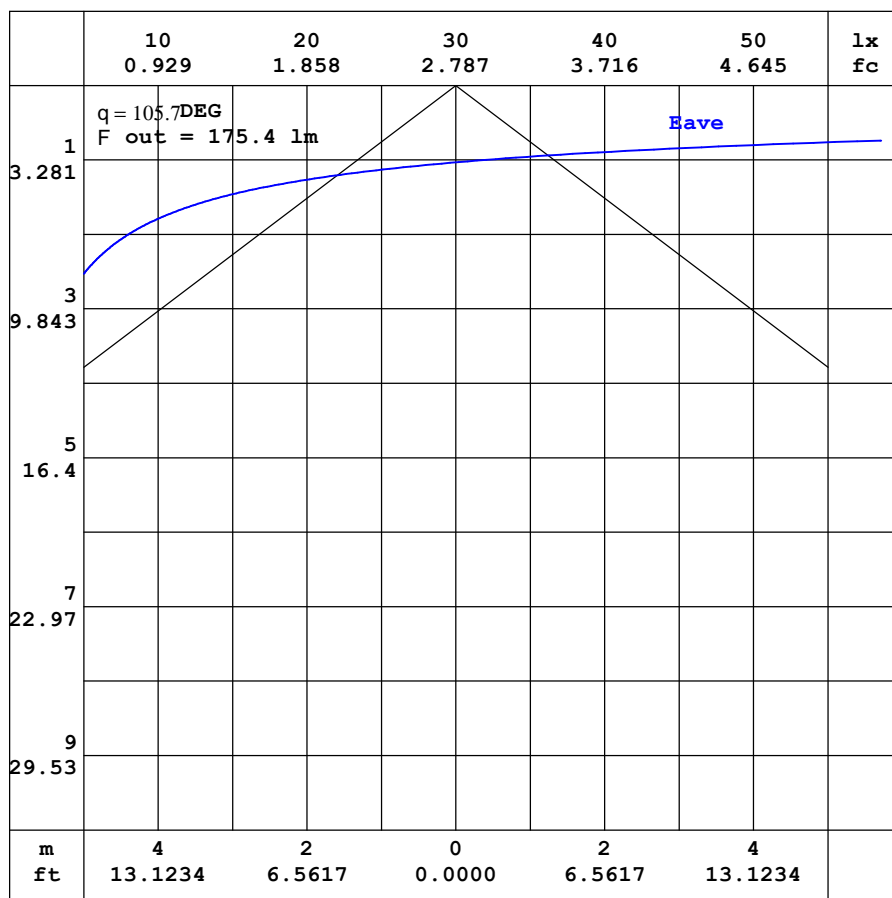


C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jack
Test Date:21 May 2018

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:120.35V I:0.0831A P:9.3397W PF:0.9339 Freq:59.98Hz Lamp Flux:679.615x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Libo	SUR.:	Shielding Angle:



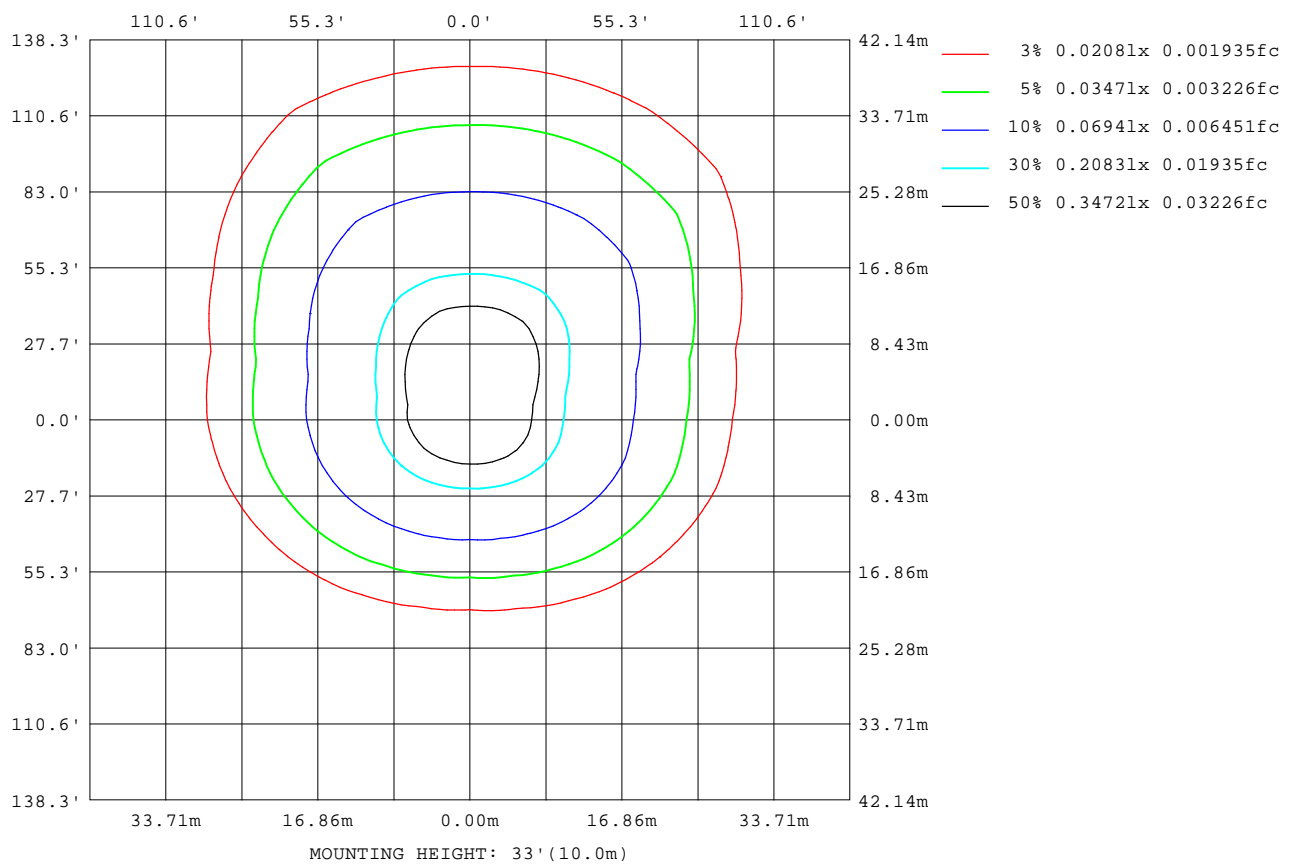
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:120.35V I:0.0831A P:9.3397W PF:0.9339 Freq:59.98Hz Lamp Flux:679.615x1 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:120.35V I:0.0831A P:9.3397W PF:0.9339 Freq:59.98Hz Lamp Flux:679.615x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Libo	SUR.:	Shielding Angle:

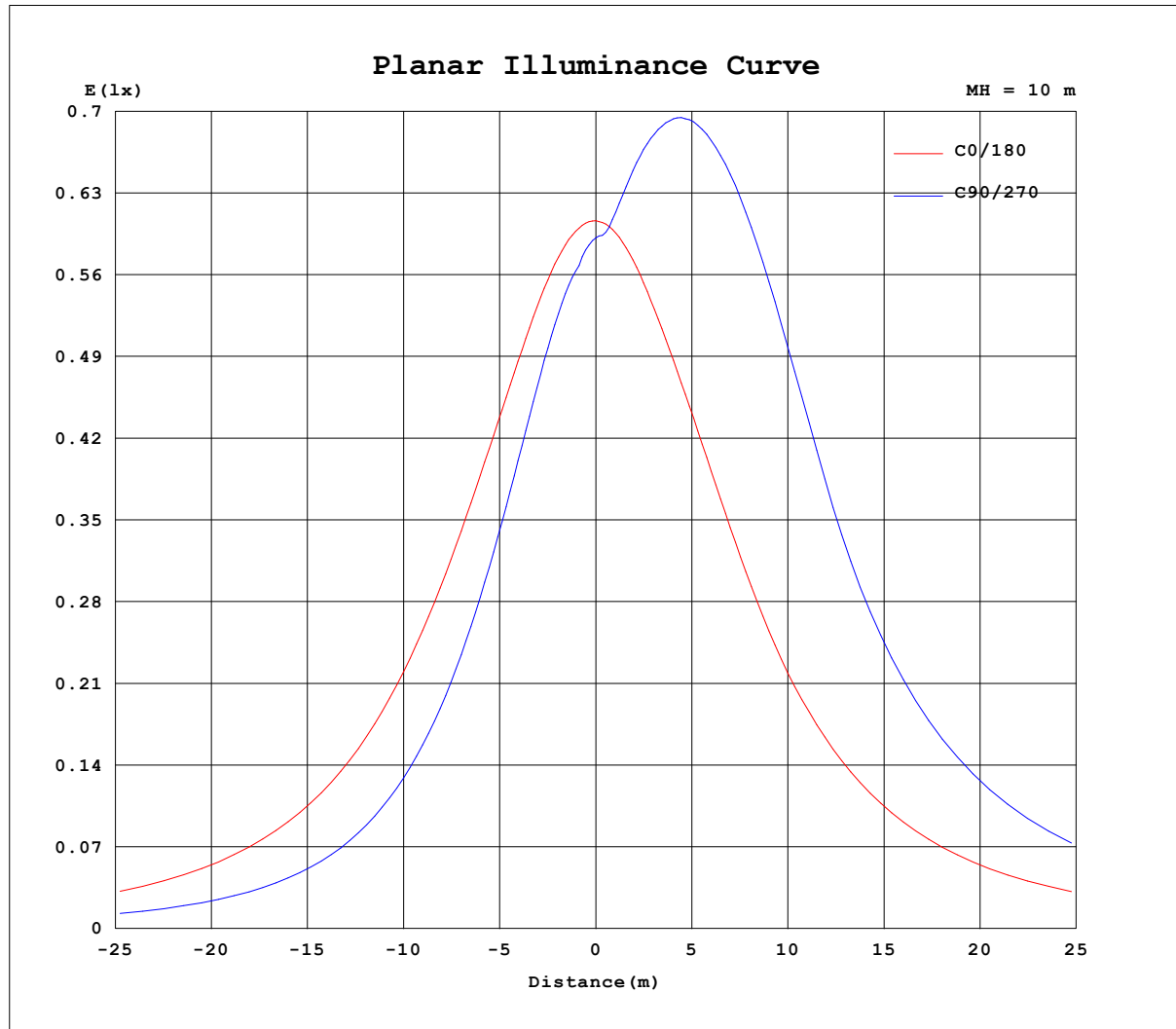
AvgL	cd/m2
L_0~180 (65) av	1446
L_0~180 (75) av	2331
L_0~180 (85) av	6739
L_90~270 (65) av	1980
L_90~270 (75) av	3093
L_90~270 (85) av	8886
L_45 (65) av	1910
L_45 (75) av	3126
L_45 (85) av	9101

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:120.35V I:0.0831A P:9.3397W PF:0.9339 Freq:59.98Hz Lamp Flux:679.615x1 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	60.6	60.3	60.0	59.8	59.5	59.4	59.2	59.1	58.9	58.8	58.6	58.4	60.6	60.3	60.0	59.8	59.5	59.4	59.2
5	60.7	60.1	59.5	59.0	58.4	57.8	57.5	57.4	57.4	57.8	57.9	58.1	60.6	60.5	60.5	61.0	61.2	61.6	61.4
10	60.8	60.0	58.9	57.8	57.0	56.5	56.1	56.0	56.2	56.6	56.9	57.6	60.5	60.6	61.9	64.0	65.7	67.1	67.3
15	60.9	59.7	58.1	56.9	55.6	54.5	54.0	54.1	54.6	55.5	56.4	57.1	60.6	61.0	63.9	67.9	71.2	73.8	74.6
20	60.9	59.5	57.7	55.7	53.7	52.1	51.4	51.6	52.5	54.1	55.8	57.2	60.9	61.6	66.1	72.1	77.5	81.7	83.2
25	61.2	59.5	57.4	54.5	51.5	49.5	48.6	49.0	50.4	52.9	55.6	57.6	61.5	62.5	68.4	76.6	84.4	90.8	93.2
30	61.6	59.7	57.3	53.4	49.4	46.7	45.7	46.2	48.3	51.8	55.4	58.2	62.1	63.3	71.0	81.5	92.0	101	105
35	62.0	60.2	57.0	52.0	47.2	43.9	42.7	43.4	46.0	50.4	54.9	58.4	62.5	64.0	73.3	86.5	100	112	118
40	62.2	60.3	56.2	50.2	44.7	41.0	39.6	40.5	43.6	48.5	53.8	58.1	62.4	64.4	75.6	91.5	109	124	130
45	62.3	60.2	55.0	48.2	42.0	38.1	36.6	37.6	40.9	46.2	52.3	57.5	61.9	64.5	77.5	96.3	117	134	141
50	62.0	59.8	53.6	46.0	39.5	35.2	33.6	34.8	38.2	43.9	50.6	56.7	61.8	64.6	79.2	101	125	142	145
55	61.8	59.1	52.1	44.0	37.1	32.5	30.8	32.0	35.8	41.7	49.0	55.9	61.6	64.6	80.6	105	132	144	144
60	61.5	58.4	50.6	42.2	35.0	30.2	28.3	29.6	33.6	39.9	47.5	55.1	61.3	64.6	81.9	109	137	143	143
65	61.2	57.7	49.2	40.7	33.2	28.1	26.2	27.5	31.7	38.4	46.1	54.4	61.0	64.4	83.1	112	140	141	141
70	60.8	56.9	48.0	39.3	31.7	26.3	24.2	25.6	30.2	37.0	44.9	53.6	60.7	64.2	83.7	114	141	140	139
75	60.4	55.9	46.9	38.1	30.3	24.7	22.3	24.0	28.7	35.7	43.8	52.7	60.3	63.8	83.5	114	141	139	138
80	59.6	54.8	45.9	37.0	28.9	22.9	20.4	22.2	27.3	34.6	42.7	51.7	59.7	63.2	82.6	114	141	138	137
85	58.8	53.9	45.0	35.9	27.8	21.5	18.7	20.7	26.2	33.4	41.8	50.6	58.6	62.0	81.0	113	140	137	136
90	59.2	53.0	43.2	34.8	26.5	20.0	17.3	19.2	24.8	32.3	39.9	49.6	59.0	62.0	78.7	111	139	137	136
95	58.1	50.8	38.9	32.3	22.8	17.1	14.6	16.6	21.1	29.5	35.1	47.0	57.5	60.2	72.8	107	137	136	135
100	55.1	45.8	30.6	27.5	16.2	14.2	12.0	13.7	14.0	23.0	25.5	39.9	52.6	54.6	54.9	101	133	135	135
105	51.7	37.6	20.1	20.8	9.23	9.21	7.84	8.78	7.28	13.8	14.5	27.7	43.0	43.8	39.4	88.6	123	133	134
110	46.9	27.9	11.9	12.4	5.96	6.83	5.85	6.43	4.66	6.04	7.94	17.7	33.3	35.1	23.7	68.2	100	113	116
115	43.9	21.8	8.15	6.36	5.50	5.37	4.30	5.12	4.57	3.98	5.81	18.2	35.9	41.1	22.8	49.1	78.1	92.9	93.7
120	44.7	22.7	7.77	4.08	5.40	5.08	3.73	4.39	3.45	3.92	7.54	25.0	44.4	47.9	29.7	35.0	53.1	65.8	69.5
125	46.9	25.9	7.87	3.82	4.20	4.43	2.88	3.48	2.41	3.46	8.07	29.4	47.2	44.3	26.1	42.5	39.0	46.0	50.4
130	42.1	24.2	6.42	2.84	3.68	2.15	1.69	1.67	3.83	3.23	6.00	24.2	36.4	29.7	7.69	45.6	47.4	44.8	47.0
135	25.3	14.4	4.21	4.28	4.19	3.14	0.74	2.72	3.58	4.71	5.15	11.3	16.2	12.7	9.49	41.4	54.6	55.4	58.2
140	10.3	7.79	7.43	6.55	3.09	2.39	0.87	2.12	2.40	7.00	9.77	10.5	13.8	17.4	19.3	34.8	42.6	51.5	59.8
145	16.2	14.7	12.5	4.48	0.42	1.36	0.44	1.05	0.47	4.15	14.9	19.8	25.3	30.3	22.1	37.9	22.5	24.8	40.3
150	24.7	20.5	8.87	0.99	0.47	0.64	0.32	0.77	0.47	0.53	6.71	18.6	25.4	20.4	8.42	22.9	16.0	10.5	9.76
155	9.14	5.33	1.27	0.29	0.32	0.96	0.27	0.68	0.33	0.62	0.35	2.35	3.09	1.87	0.59	7.27	8.12	8.44	12.0
160	0.43	0.18	1.95	2.74	1.27	0.31	0.20	0.24	1.13	3.52	3.51	0.22	0.28	0.34	0.31	0.62	2.94	4.06	5.56
165	0.43	0.90	2.81	2.85	1.40	0.17	0.20	0.26	0.56	2.26	2.24	0.81	0.89	0.65	0.72	0.43	0.36	0.43	0.57
170	1.75	1.04	0.88	0.56	0.13	0.15	0.20	0.25	0.23	0.12	1.08	1.03	2.98	2.99	1.98	0.93	0.35	0.20	0.21
175	2.24	1.77	1.26	0.89	0.58	0.14	0.14	0.15	0.16	0.12	0.12	0.94	0.64	0.64	0.47	0.31	0.17	0.16	0.19
180	0.76	0.73	0.65	0.59	0.50	0.44	0.34	0.34	0.35	0.35	0.36	0.38	0.76	0.72	0.67	0.57	0.51	0.37	0.36

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:120.35V I:0.0831A P:9.3397W PF:0.9339 Freq:59.98Hz Lamp Flux:679.615x1 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	59.1	58.9	58.8	58.6	58.4														
5	61.2	60.5	59.8	59.0	58.7														
10	66.8	65.2	63.2	60.7	59.0														
15	73.9	71.2	67.8	63.4	59.7														
20	82.1	78.2	72.9	66.4	60.7														
25	91.8	86.1	78.4	69.7	62.0														
30	103	95.3	84.6	73.1	63.4														
35	116	105	91.3	76.7	64.8														
40	128	116	98.5	80.3	66.1														
45	140	128	106	83.8	67.1														
50	146	137	113	87.1	67.8														
55	146	145	121	90.0	68.3														
60	145	147	127	92.6	68.7														
65	144	146	132	94.8	68.8														
70	142	145	135	96.2	68.7														
75	140	143	136	96.9	68.4														
80	140	143	136	96.5	67.6														
85	138	141	135	94.9	66.3														
90	138	140	132	93.4	66.0														
95	136	138	127	89.2	64.3														
100	136	137	120	81.2	60.7														
105	133	129	99.3	61.1	56.5														
110	112	104	73.8	37.3	51.0														
115	94.9	79.5	47.0	33.9	47.5														
120	67.3	53.4	36.5	38.3	49.0														
125	49.7	43.4	46.5	30.9	47.7														
130	50.5	56.6	45.8	11.2	38.0														
135	59.9	61.6	36.8	7.11	19.9														
140	53.0	50.5	29.5	12.5	12.9														
145	19.1	26.5	40.4	20.3	23.0														
150	11.9	26.6	24.8	12.8	26.6														
155	7.72	12.1	7.53	1.72	6.69														
160	4.27	3.55	0.44	0.29	0.21														
165	0.42	0.32	0.40	0.37	0.28														
170	0.24	0.50	1.06	1.86	2.35														
175	0.43	0.82	1.37	1.90	2.08														
180	0.33	0.34	0.35	0.36	0.39														

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: