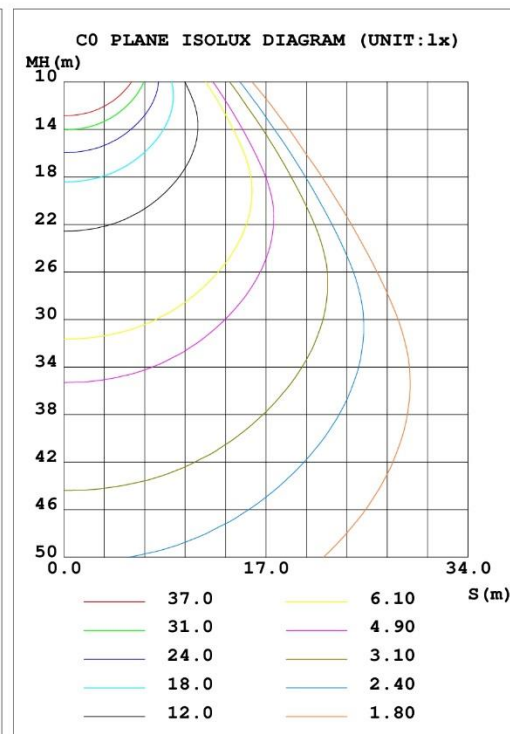
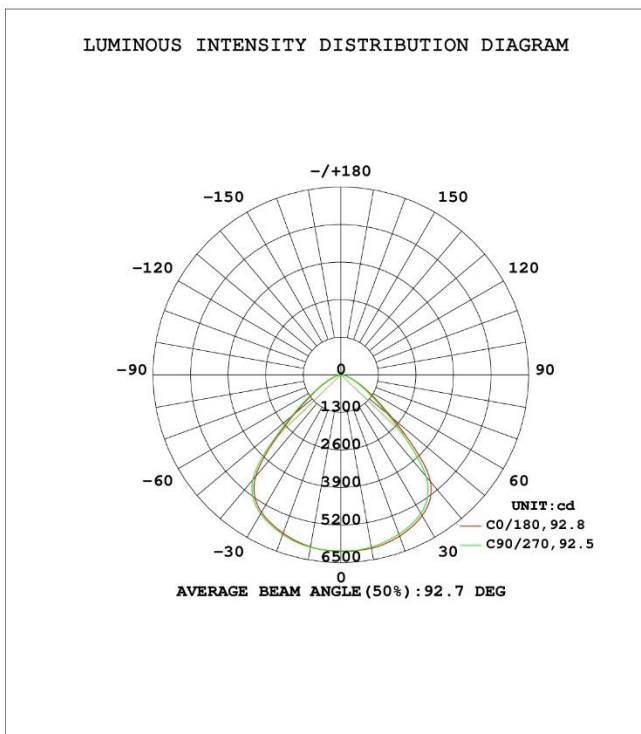


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:220.4V I:0.3318A P:71.73W PF:0.9806 Freq:50.00Hz Lamp Flux:13305.7x1 lm		
NAME: SL-UFOA00-70W-R090-C	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:D0.23	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 185.51 lm/W			
MODEL	SL-UFOA00-70W-R090-C	I _{max} (cd)	6113	S/MH (C0/180)	1.32
NOMINAL POWER (W)	70	LOR (%)	100.0	S/MH (C90/270)	1.35
RATED VOLTAGE (V)	100-240	TOTAL FLUX (lm)	13306	η UP, DN (C0-180)	1.7, 49.1
NOMINAL FLUX (lm)	13305.7	CIE CLASS	DIRECT	η UP, DN (C180-360)	1.1, 48.1
LAMPS INSIDE	1	η up (%)	2.8	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230	η down (%)	97.2	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 28.5DEG
 Operators: lumingli
 Test Date: 2019-06-21

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity: 55.0%
 Test Distance: 11.340m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	6097	6078	6057	6043	6048	6052	6063	6049	0- 10	580.5	580.5	4.36,4.36
20	5944	5908	5872	5857	5835	5853	5884	5879	10- 20	1693	2273	17.1,17.1
30	5625	5586	5542	5530	5490	5511	5550	5548	20- 30	2647	4920	37,37
40	4819	4709	4591	4582	4593	4638	4737	4746	30- 40	3259	8179	61.5,61.5
50	2313	2244	2097	2068	2067	2129	2220	2209	40- 50	2632	10812	81.3,81.3
60	972.3	966.4	883.9	882.1	818.3	874.8	875.6	924.4	50- 60	1279	12090	90.9,90.9
70	383.0	381.7	352.4	336.2	280.8	305.5	312.2	321.3	60- 70	573.1	12663	95.2,95.2
80	133.4	128.1	116.0	115.9	66.76	74.61	79.16	85.75	70- 80	211.8	12875	96.8,96.8
90	57.91	57.71	56.96	56.75	18.33	18.05	17.67	17.61	80- 90	57.84	12933	97.2,97.2
100	54.88	54.97	54.68	54.65	24.81	24.36	23.85	23.77	90-100	41.65	12974	97.5,97.5
110	58.00	58.30	58.33	58.43	33.29	32.68	32.08	31.96	100-110	44.57	13019	97.8,97.8
120	65.29	65.67	65.94	66.09	43.64	42.87	42.20	42.07	110-120	49.18	13068	98.2,98.2
130	74.54	75.00	75.28	75.52	55.62	54.71	54.00	53.94	120-130	53.23	13121	98.6,98.6
140	84.20	84.54	84.98	85.19	67.55	66.70	66.03	66.07	130-140	54.32	13176	99,99
150	92.20	92.45	92.85	93.04	78.38	77.53	76.94	76.98	140-150	50.42	13226	99.4,99.4
160	100.3	100.4	100.6	100.9	90.15	89.29	88.66	88.65	150-160	41.49	13268	99.7,99.7
170	106.3	106.2	106.1	106.3	100.8	100.0	99.47	99.45	160-170	28.01	13296	99.9,99.9
180	106.8	106.5	106.1	106.1	107.0	106.4	106.2	106.1	170-180	9.989	13306	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 9698.9 lm

%lum = 72.9%
%lamp = 72.9%

Conical surface Flux(120deg): 12090 lm

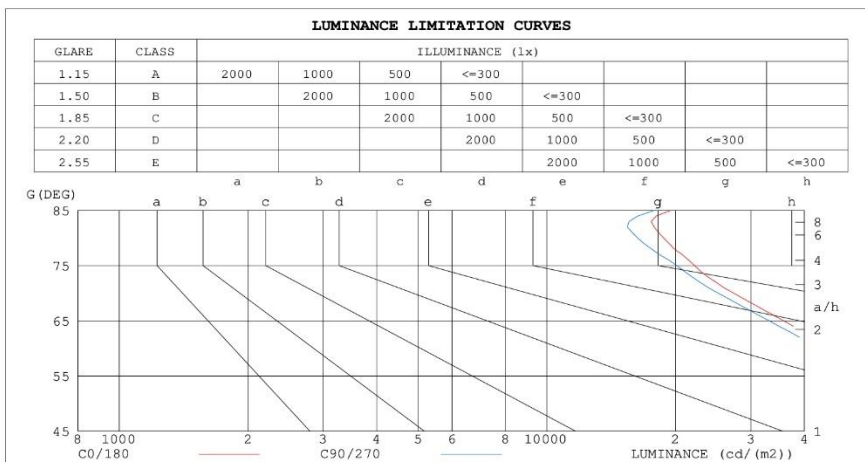
%lum = 90.9%
%lamp = 90.9%

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:28.5DEG
Operators:lumingli
Test Date:2019-06-21

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:55.0%
Test Distance:11.340m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:220.4V I:0.3318A P:71.73W PF:0.9806 Freq:50.00Hz Lamp Flux:13305.7x1 lm		
NAME: SL-UFOA00-70W-R090-C	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:D0.23	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	19508	17855
80	18739	16292
75	22135	20115
70	27311	25134
65	35744	33055
60	47428	43119
55	62996	56556
50	87758	79552
45	124959	113653

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:28.5DEG
 Operators:lumingli
 Test Date:2019-06-21

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:55.0%
 Test Distance:11.340m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:220.4V I:0.3318A P:71.73W PF:0.9806 Freq:50.00Hz Lamp Flux:13305.7x1 lm					
NAME: SL-UFOA00-70W-R090-C		TYPE:		WEIGHT:	
SPEC.:		DIM.:		SERIAL No.:	
MFR.:		SUR.:D0.23		Shielding Angle:	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients (WEC)									
0.0																
1.0	.238	.135	.043	.230	.131	.042	.216	.124	.040	.203	.117	.038	.190	.110	.036	
2.0	.231	.127	.039	.224	.123	.038	.212	.118	.037	.200	.112	.035	.189	.107	.034	
3.0	.220	.117	.035	.214	.115	.034	.203	.110	.033	.192	.105	.032	.183	.101	.031	
4.0	.208	.108	.032	.203	.106	.031	.193	.102	.031	.184	.099	.030	.175	.095	.029	
5.0	.196	.100	.029	.192	.098	.029	.183	.095	.028	.175	.092	.027	.167	.089	.027	
6.0	.185	.093	.027	.181	.092	.026	.173	.089	.026	.166	.086	.025	.159	.084	.025	
7.0	.175	.087	.025	.171	.085	.024	.164	.083	.024	.158	.081	.024	.151	.079	.023	
8.0	.166	.081	.023	.162	.080	.023	.156	.078	.022	.150	.076	.022	.144	.074	.022	
9.0	.157	.076	.021	.154	.075	.021	.148	.073	.021	.143	.072	.020	.138	.070	.020	
10.0	.149	.072	.020	.146	.071	.020	.141	.069	.019	.136	.068	.019	.131	.066	.019	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients (CCEC)									
0.0	.212	.212	.212	.181	.181	.181	.124	.124	.124	.071	.071	.071	.023	.023	.023	
1.0	.197	.178	.162	.168	.153	.139	.115	.105	.096	.066	.061	.056	.021	.020	.018	
2.0	.186	.154	.127	.159	.132	.110	.109	.092	.077	.063	.053	.045	.020	.017	.015	
3.0	.177	.136	.103	.151	.117	.089	.104	.081	.063	.060	.048	.037	.019	.015	.012	
4.0	.169	.122	.086	.145	.105	.075	.099	.073	.053	.058	.043	.031	.019	.014	.010	
5.0	.161	.111	.074	.139	.096	.065	.095	.067	.046	.055	.039	.027	.018	.013	.009	
6.0	.155	.103	.065	.133	.089	.057	.092	.062	.040	.053	.037	.024	.017	.012	.008	
7.0	.149	.096	.059	.128	.083	.051	.088	.058	.036	.051	.034	.022	.017	.011	.007	
8.0	.143	.090	.053	.123	.078	.047	.085	.055	.033	.050	.032	.020	.016	.011	.007	
9.0	.138	.085	.049	.118	.074	.043	.082	.052	.031	.048	.031	.018	.015	.010	.006	
10.0	.133	.081	.046	.114	.070	.040	.079	.049	.029	.046	.029	.017	.015	.010	.006	

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:28.5DEG
 Operators:lumingli
 Test Date:2019-06-21

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:55.0%
 Test Distance:11.340m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:220.4V I:0.3318A P:71.73W PF:0.9806 Freq:50.00Hz Lamp Flux:13305.7x1 lm										
NAME: SL-UFOA00-70W-R090-C					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.:					SUR.:D0.23			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	17.9	19.2	18.2	19.4	19.6	17.6	18.9	17.9	19.1	19.3
3H	18.1	19.2	18.4	19.5	19.8	17.8	18.9	18.1	19.2	19.5
4H	18.1	19.2	18.5	19.5	19.8	17.8	18.9	18.1	19.2	19.5
6H	18.1	19.2	18.5	19.5	19.8	17.8	18.8	18.2	19.1	19.4
8H	18.1	19.1	18.5	19.4	19.8	17.8	18.8	18.2	19.1	19.4
12H	18.1	19.0	18.5	19.4	19.7	17.8	18.7	18.1	19.0	19.4
4H 2H	17.9	19.0	18.2	19.3	19.6	17.6	18.7	18.0	19.0	19.3
3H	18.2	19.1	18.6	19.5	19.8	17.9	18.9	18.3	19.2	19.5
4H	18.3	19.2	18.7	19.5	19.9	18.0	18.9	18.4	19.2	19.6
6H	18.4	19.1	18.8	19.5	19.9	18.1	18.8	18.5	19.2	19.6
8H	18.4	19.1	18.8	19.5	19.9	18.1	18.8	18.5	19.2	19.6
12H	18.4	19.0	18.9	19.5	19.9	18.1	18.7	18.5	19.1	19.6
8H 4H	18.3	19.0	18.7	19.4	19.8	18.0	18.7	18.4	19.1	19.5
6H	18.4	19.0	18.9	19.4	19.9	18.1	18.7	18.6	19.1	19.6
8H	18.4	18.9	18.9	19.4	19.9	18.1	18.6	18.6	19.1	19.6
12H	18.5	18.9	19.0	19.4	19.9	18.2	18.6	18.7	19.1	19.6
12H 4H	18.2	18.9	18.7	19.3	19.7	18.0	18.6	18.4	19.0	19.5
6H	18.4	18.9	18.9	19.3	19.8	18.1	18.6	18.6	19.0	19.5
8H	18.4	18.9	19.0	19.3	19.9	18.1	18.6	18.6	19.0	19.6
Variations with the observer position at spacings:										
S = 1.0H	+ 1.3 / - 1.6					+ 1.4 / - 1.8				
1.5H	+ 1.0 / - 1.2					+ 1.1 / - 1.2				
2.0H	+ 2.7 / - 2.0					+ 2.6 / - 1.9				

CIE Pub.117, 13306 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 9.0)

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:28.5DEG
 Operators:lumingli
 Test Date:2019-06-21

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:55.0%
 Test Distance:11.340m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:220.4V I:0.3318A P:71.73W PF:0.9806 Freq:50.00Hz Lamp Flux:13305.7x1 lm		
NAME: SL-UFOA00-70W-R090-C	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:D0.23	Shielding Angle:

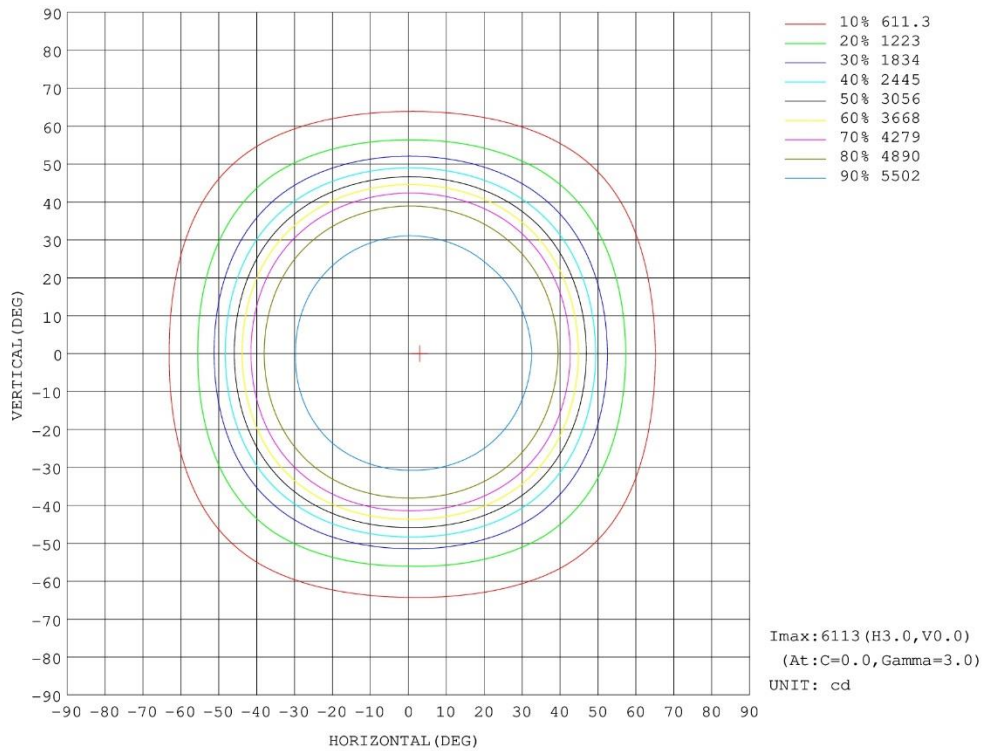
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	67	57	52	66	57	51	65	57	51	46
0.80	77	68	62	76	67	61	74	66	61	55
1.00	85	76	70	84	76	70	82	76	69	63
1.25	91	83	78	90	82	77	87	81	76	70
1.50	95	88	83	94	87	82	91	85	81	74
2.00	101	94	89	99	93	89	96	91	87	80
2.50	104	98	93	102	96	92	98	93	90	82
3.00	106	101	97	104	99	96	100	96	93	85
4.00	109	105	101	107	103	100	102	99	97	88
5.00	111	107	104	108	105	102	104	101	99	89
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004	Suspended						SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:28.5DEG
 Operators:lumingli
 Test Date:2019-06-21

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:55.0%
 Test Distance:11.340m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:220.4V I:0.3318A P:71.73W PF:0.9806 Freq:50.00Hz Lamp Flux:13305.7x1 lm		
NAME: SL-UFOA00-70W-R090-C	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:D0.23	Shielding Angle:

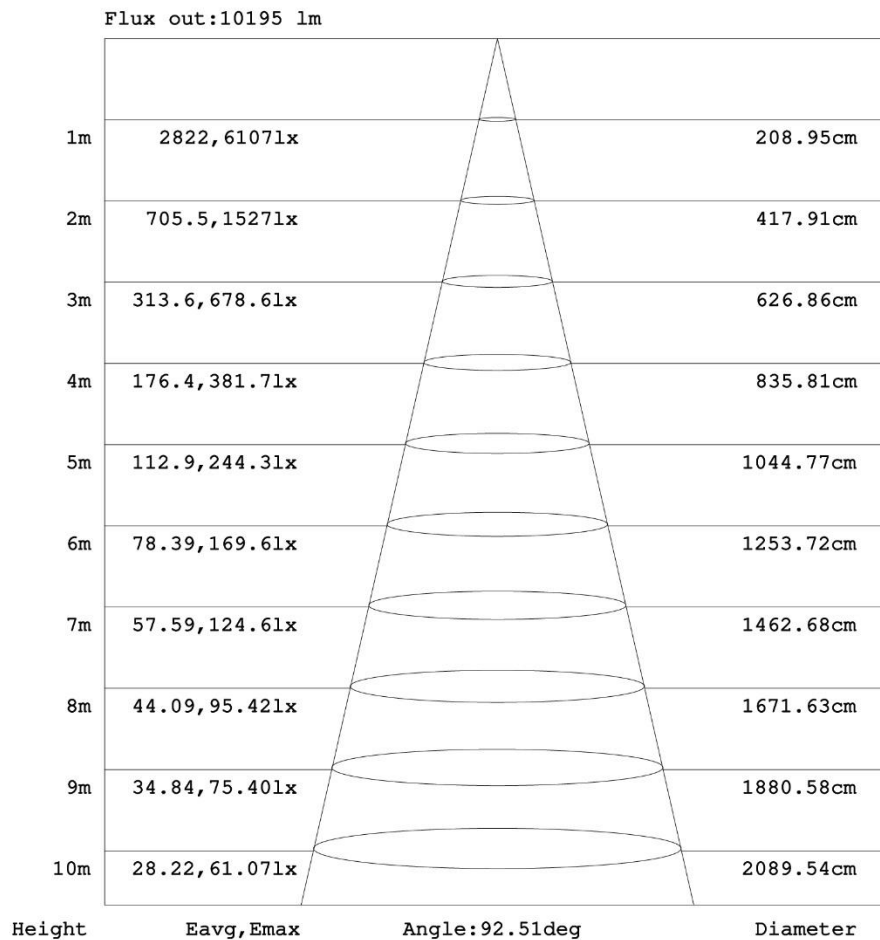


C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:28.5DEG
 Operators:lumingli
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γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:55.0%
 Test Distance:11.340m [K=1.0000]
 Remarks:

AAI Figure

Test:U:220.4V I:0.3318A P:71.73W PF:0.9806 Freq:50.00Hz Lamp Flux:13305.7x1 lm		
NAME: SL-UFOA00-70W-R090-C	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:D0.23	Shielding Angle:

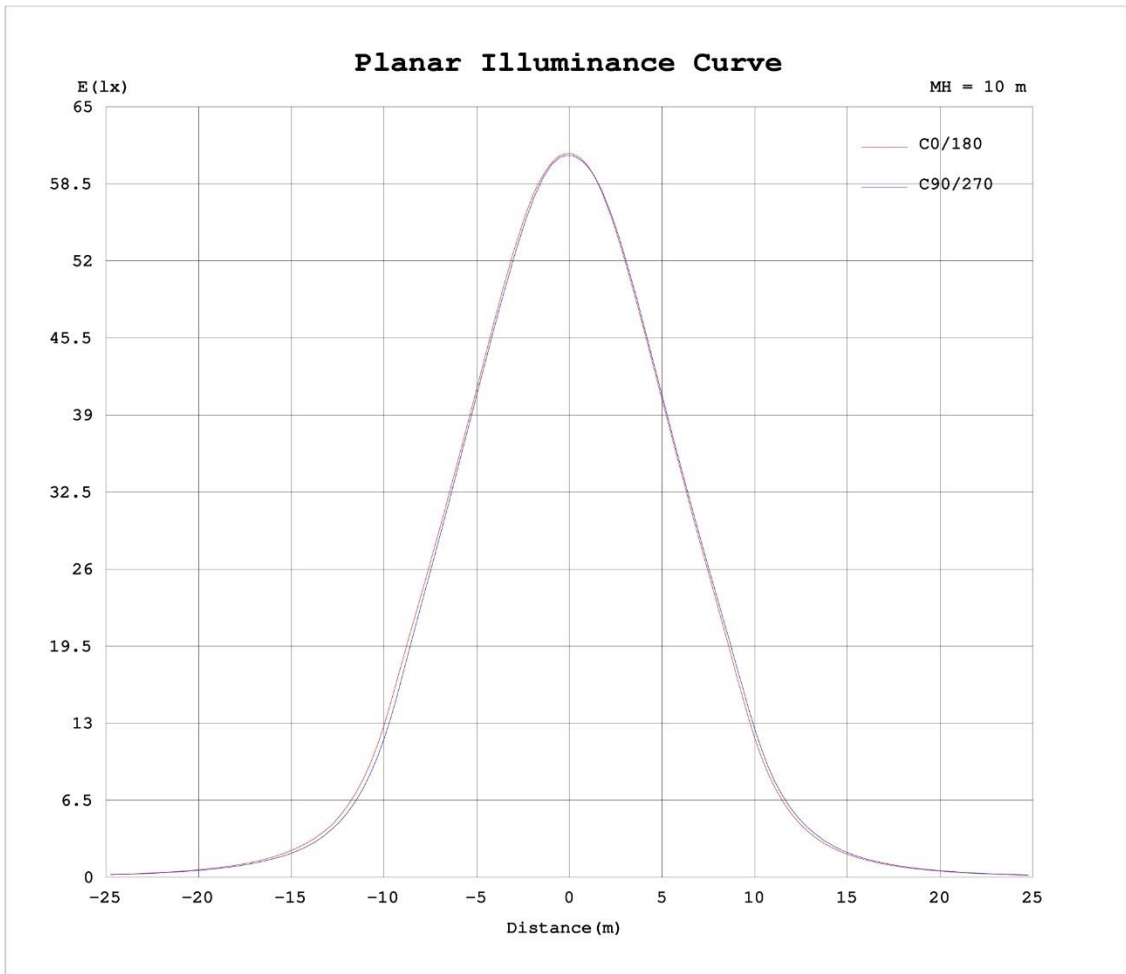


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:28.5DEG
 Operators:lumingli
 Test Date:2019-06-21

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:55.0%
 Test Distance:11.340m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 28.5DEG
 Operators: lumingli
 Test Date: 2019-06-21

γ Range: 0 - 180DEG
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 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity: 55.0%
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 Remarks: