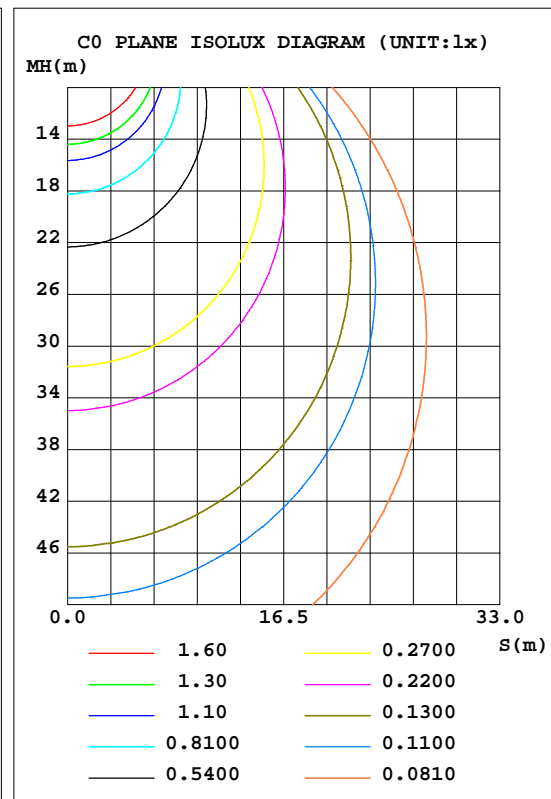
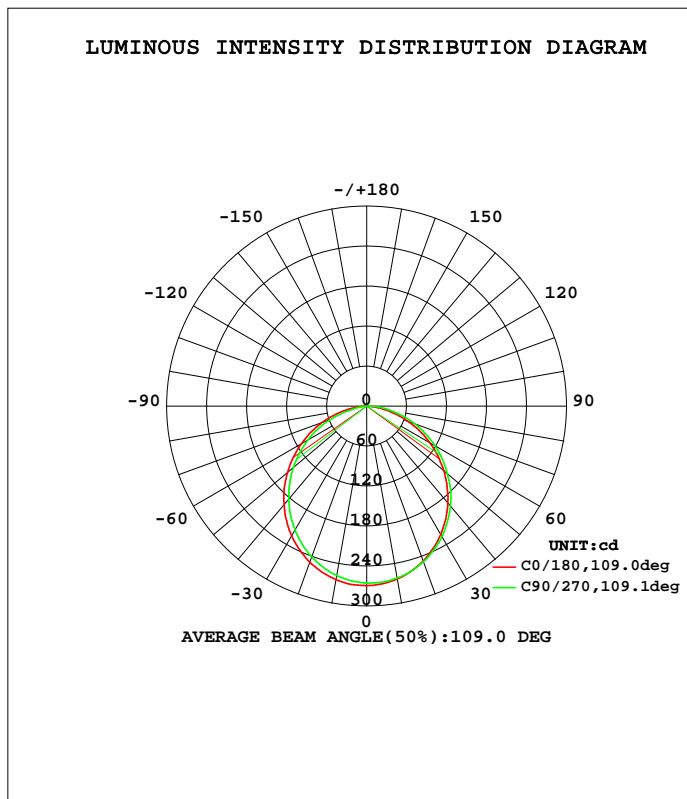


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:110.6V I:0.1611A P:17.01W PF:0.9556 Lamp Flux:729.643x1 lm		
NAME:	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: 2700K	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 42.88 lm/W			
MODEL	620	I _{max} (cd)	269.3	S/MH(C0/180)	1.23
NOMINAL POWER(W)	18	LOR(%)	100.0	S/MH(C90/270)	1.26
RATED VOLTAGE(V)	110	TOTAL FLUX(lm)	729.64	η UP, DN(C0-180)	0.0, 51.2
NOMINAL FLUX(lm)	729.643	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 48.8
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	110.5	η down(%)	100.0	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2018-03-15

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.274
 Humidity: 65.0%
 Test Distance: 6.710m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C90	C180	C270				γ	Φ zone	Φ total	\$lum,lamp
10	263.6	262.1	264.4	258.1				0- 10	25.27	25.27	3.46,3.46
20	247.4	248.7	249.3	240.9				10- 20	72.10	97.37	13.3,13.3
30	222.4	226.1	225.0	214.9				20- 30	108.5	205.8	28.2,28.2
40	189.5	195.7	193.2	182.2				30- 40	129.4	335.2	45.9,45.9
50	151.2	158.4	155.0	143.9				40- 50	132.5	467.7	64.1,64.1
60	109.1	117.9	113.5	102.2				50- 60	117.7	585.4	80.2,80.2
70	64.73	75.43	70.14	56.49				60- 70	88.00	673.4	92.3,92.3
80	21.52	34.34	27.26	12.13				70- 80	46.70	720.1	98.7,98.7
90	0	0	0	0				80- 90	9.540	729.6	100,100
100	0	0	0	0				90-100	0	729.6	100,100
110	0	0	0	0				100-110	0	729.6	100,100
120	0	0	0	0				110-120	0	729.6	100,100
130	0	0	0	0				120-130	0	729.6	100,100
140	0	0	0	0				130-140	0	729.6	100,100
150	0	0	0	0				140-150	0	729.6	100,100
160	0	0	0	0				150-160	0	729.6	100,100
170	0	0	0	0				160-170	0	729.6	100,100
180	0	0	0	0				170-180	0	729.6	100,100
DEG	LUMINOUS INTENSITY:cd								UNIT:lm		

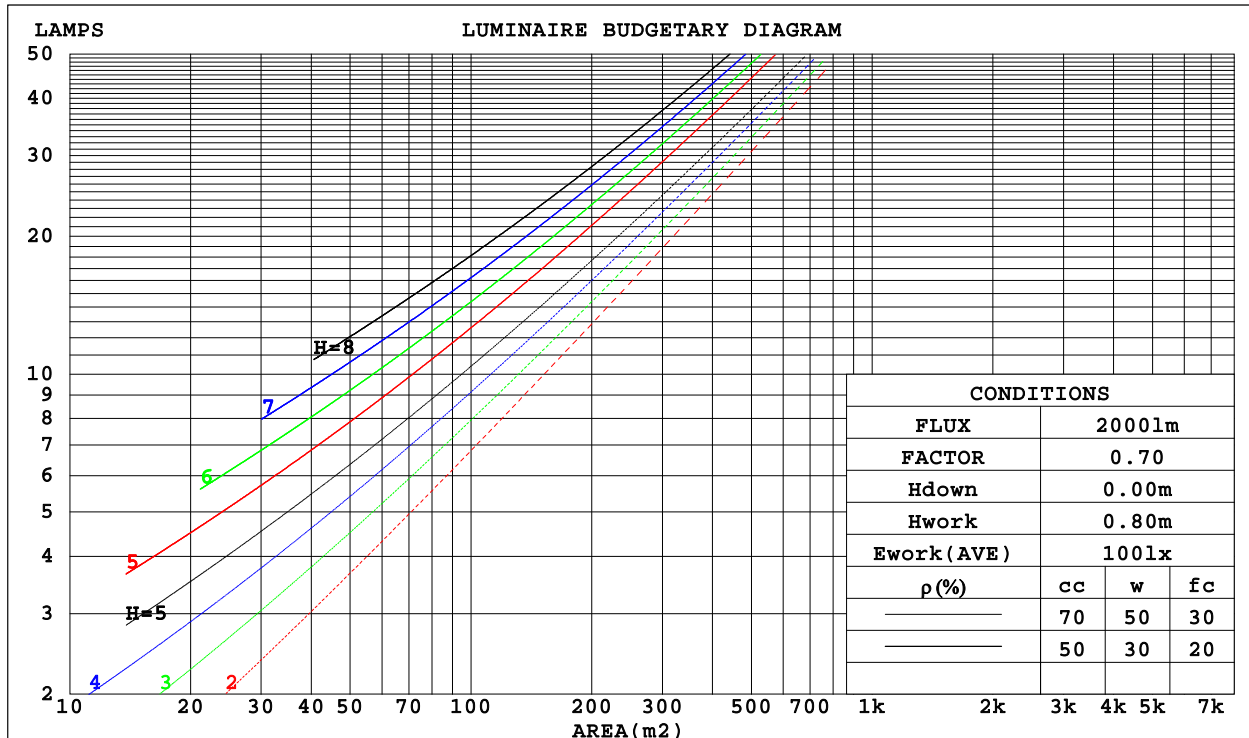
C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-03-15

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.274
 Humidity:65.0%
 Test Distance:6.710m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:110.6V I:0.1611A P:17.01W PF:0.9556 Lamp Flux:729.643x1 lm		
NAME:	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: 2700K	SUR.:	PROTECTION ANGLE:

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1.0	1.04	1.00	.96	1.02	.98	.95	.98	.95	.92	.94	.91	.89	.90	.88	.86	.84
2.0	.91	.84	.79	.89	.83	.78	.86	.81	.76	.82	.78	.74	.79	.76	.73	.71
3.0	.80	.72	.66	.79	.71	.65	.76	.69	.64	.73	.67	.63	.70	.66	.62	.60
4.0	.71	.62	.56	.70	.62	.55	.67	.60	.55	.65	.59	.54	.63	.57	.53	.51
5.0	.64	.55	.48	.62	.54	.48	.60	.53	.47	.58	.52	.47	.56	.51	.46	.44
6.0	.57	.48	.42	.56	.48	.42	.54	.47	.41	.53	.46	.41	.51	.45	.41	.39
7.0	.52	.43	.37	.51	.43	.37	.50	.42	.37	.48	.41	.36	.47	.41	.36	.34
8.0	.47	.39	.33	.47	.39	.33	.45	.38	.33	.44	.37	.33	.43	.37	.32	.30
9.0	.43	.35	.30	.43	.35	.30	.42	.35	.30	.41	.34	.29	.40	.34	.29	.27
10.0	.40	.32	.27	.40	.32	.27	.39	.32	.27	.38	.31	.27	.37	.31	.27	.25



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-03-15

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.274
 Humidity:65.0%
 Test Distance:6.710m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:110.6V I:0.1611A P:17.01W PF:0.9556 Lamp Flux:729.643x1 lm		
NAME:	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: 2700K	SUR.:	PROTECTION ANGLE:

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.300	.170	.054	.292	.167	.053	.279	.160	.051	.267	.154	.049	.256	.148	.048	
2.0	.285	.156	.048	.279	.153	.047	.267	.148	.046	.256	.144	.045	.246	.139	.044	
3.0	.265	.141	.042	.260	.139	.042	.249	.135	.041	.240	.131	.040	.231	.128	.040	
4.0	.245	.128	.037	.241	.126	.037	.231	.123	.037	.223	.120	.036	.215	.117	.036	
5.0	.227	.116	.034	.223	.115	.033	.215	.112	.033	.207	.109	.033	.200	.107	.032	
6.0	.211	.106	.030	.207	.105	.030	.200	.103	.030	.194	.101	.030	.187	.099	.029	
7.0	.197	.097	.028	.194	.096	.027	.187	.095	.027	.181	.093	.027	.175	.091	.027	
8.0	.184	.090	.025	.181	.089	.025	.175	.088	.025	.170	.086	.025	.165	.085	.025	
9.0	.173	.084	.023	.170	.083	.023	.165	.081	.023	.160	.080	.023	.155	.079	.023	
10.0	.162	.078	.022	.160	.077	.022	.155	.076	.021	.151	.075	.021	.147	.074	.021	

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.180	.156	.135	.154	.134	.116	.105	.092	.080	.060	.053	.047	.019	.017	.015	
2.0	.171	.132	.099	.147	.114	.085	.101	.079	.060	.058	.046	.035	.019	.015	.011	
3.0	.164	.114	.075	.140	.099	.065	.096	.068	.046	.056	.040	.027	.018	.013	.009	
4.0	.156	.101	.059	.134	.087	.051	.092	.061	.036	.053	.036	.021	.017	.012	.007	
5.0	.149	.090	.048	.128	.078	.041	.088	.055	.029	.051	.032	.017	.016	.010	.006	
6.0	.141	.082	.039	.122	.071	.034	.084	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.135	.075	.033	.116	.065	.029	.080	.046	.021	.047	.027	.012	.015	.009	.004	
8.0	.128	.069	.029	.110	.060	.025	.076	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.122	.064	.025	.105	.056	.022	.073	.039	.016	.043	.023	.009	.014	.008	.003	
10.0	.117	.060	.023	.101	.052	.020	.070	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-03-15

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.274
 Humidity:65.0%
 Test Distance:6.710m [K=1.0000]
 Remarks:

Uncorrected UGR Table

Test:U:110.6V I:0.1611A P:17.01W PF:0.9556 Lamp Flux:729.643x1 lm										
NAME:			TYPE:			WEIGHT:				
DIM.:			SPEC.:			SERIAL No.:				
MFR.: 2700K			SUR.:			PROTECTION 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	20.0	21.5	20.2	21.7	21.9	20.2	21.7	20.5	21.9	22.1
3H	21.4	22.7	21.7	23.0	23.2	21.8	23.2	22.1	23.4	23.6
4H	21.9	23.2	22.2	23.4	23.7	22.4	23.8	22.8	24.0	24.3
6H	22.1	23.4	22.5	23.7	23.9	22.9	24.2	23.3	24.5	24.7
8H	22.2	23.4	22.5	23.7	24.0	23.1	24.3	23.5	24.6	24.9
12H	22.2	23.3	22.5	23.6	23.9	23.2	24.4	23.6	24.7	25.0
4H 2H	20.6	21.9	20.9	22.2	22.4	20.8	22.1	21.1	22.4	22.6
3H	22.2	23.3	22.5	23.6	23.9	22.5	23.7	22.9	24.0	24.3
4H	22.8	23.9	23.2	24.2	24.5	23.3	24.4	23.7	24.7	25.0
6H	23.2	24.1	23.6	24.5	24.8	23.9	24.9	24.3	25.2	25.6
8H	23.3	24.1	23.7	24.5	24.9	24.2	25.0	24.6	25.4	25.8
12H	23.3	24.1	23.7	24.4	24.8	24.3	25.1	24.8	25.5	25.9
8H 4H	23.1	24.0	23.5	24.3	24.7	23.5	24.4	24.0	24.8	25.2
6H	23.6	24.3	24.0	24.7	25.2	24.3	25.0	24.8	25.4	25.9
8H	23.7	24.4	24.2	24.8	25.2	24.6	25.3	25.1	25.7	26.1
12H	23.8	24.3	24.2	24.8	25.2	24.9	25.4	25.3	25.9	26.3
12H 4H	23.1	23.9	23.5	24.3	24.7	23.5	24.3	24.0	24.7	25.1
6H	23.7	24.3	24.1	24.7	25.2	24.3	25.0	24.8	25.4	25.9
8H	23.8	24.4	24.3	24.8	25.3	24.7	25.2	25.2	25.7	26.2
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.2					+ 0.1 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.2				

CIE Pub.117 Corrected 729.6 lm Total Lamp Luminous Flux.(8log(F/F0) = -1.1)

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-03-15

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.274
 Humidity:65.0%
 Test Distance:6.710m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:110.6V I:0.1611A P:17.01W PF:0.9556 Lamp Flux:729.643x1 lm		
NAME:	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: 2700K	SUR.:	PROTECTION ANGLE:

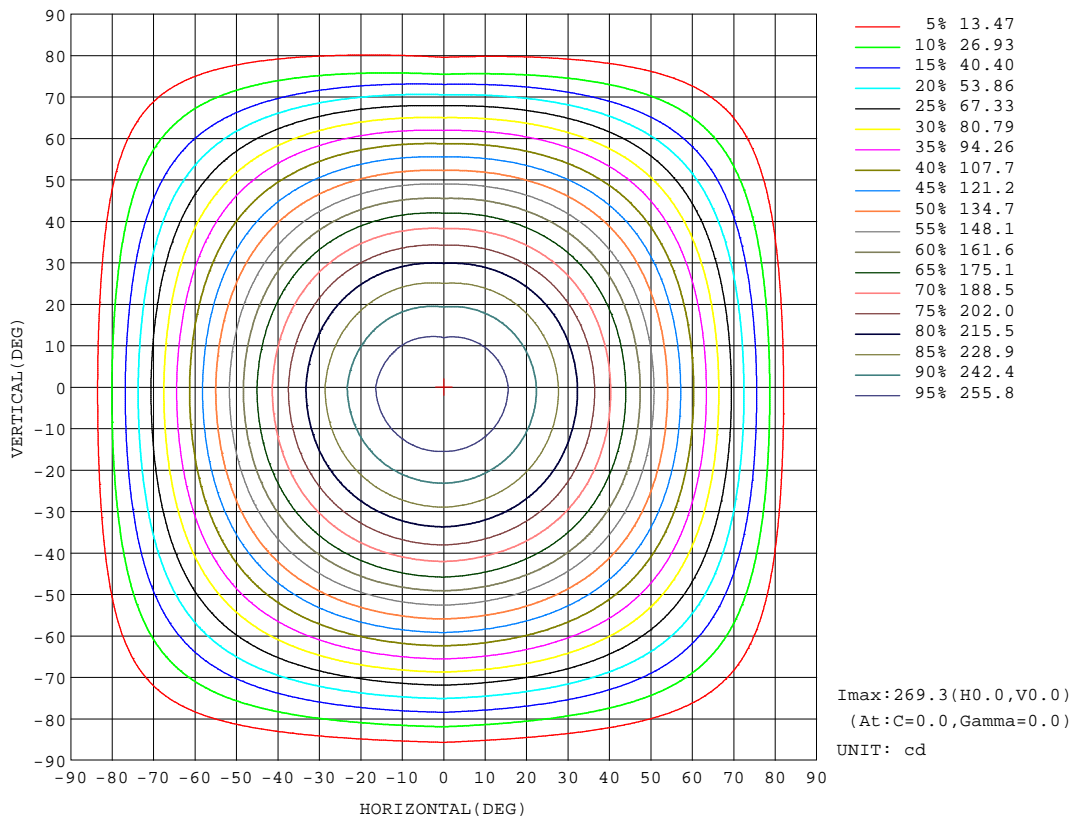
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	58	47	40	58	47	40	56	46	40	33
0.80	68	57	50	67	56	49	66	56	49	42
1.00	77	66	59	76	65	58	73	67	58	51
1.25	84	74	67	82	73	66	80	71	65	58
1.50	89	79	72	87	78	72	84	76	71	63
2.00	96	87	81	94	86	80	90	84	79	71
2.50	99	92	86	97	91	85	94	88	83	75
3.00	103	96	91	101	95	90	97	92	87	79
4.00	107	101	97	104	99	95	100	96	93	84
5.00	109	104	100	107	102	99	102	99	96	87
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-03-15

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.274
 Humidity:65.0%
 Test Distance:6.710m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:110.6V I:0.1611A P:17.01W PF:0.9556 Lamp Flux:729.643x1 lm		
NAME:	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: 2700K	SUR.:	PROTECTION ANGLE:



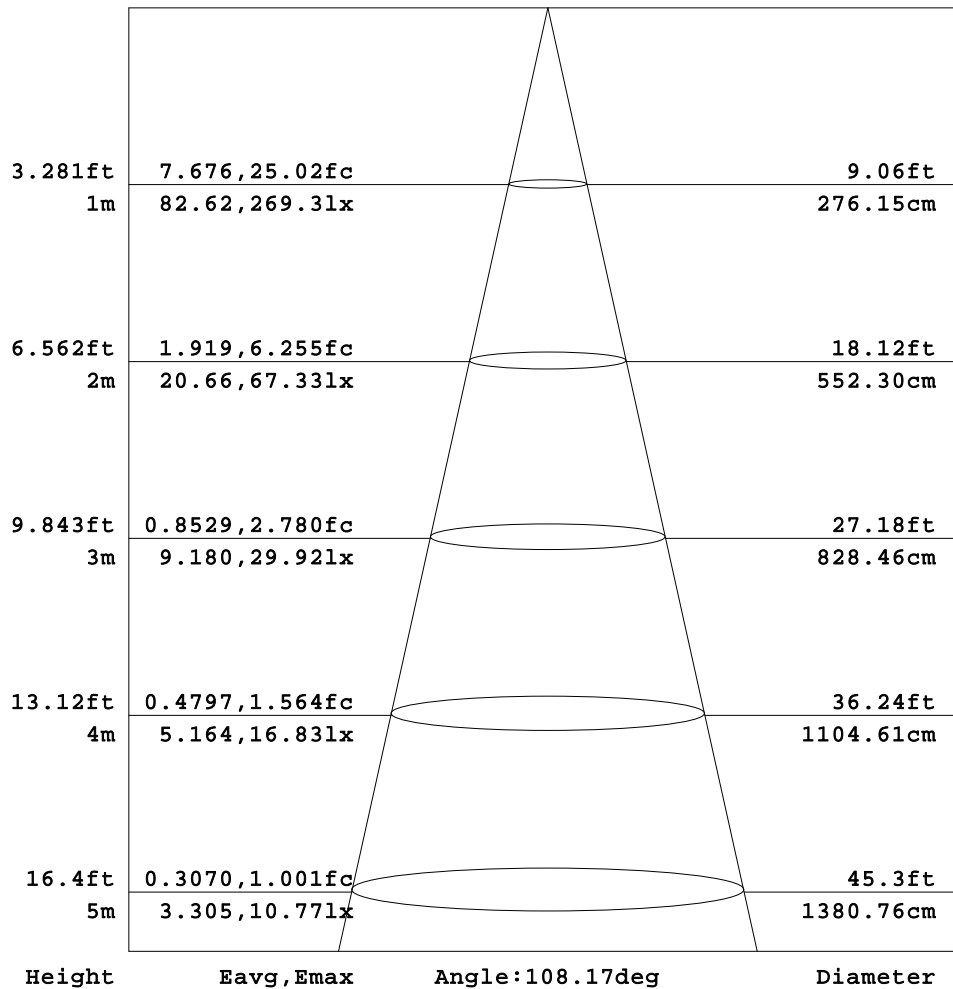
C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-03-15

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.274
 Humidity:65.0%
 Test Distance:6.710m [K=1.0000]
 Remarks:

AAI Figure

Test:U:110.6V I:0.1611A P:17.01W PF:0.9556 Lamp Flux:729.643x1 lm		
NAME:	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: 2700K	SUR.:	PROTECTION ANGLE:

Flux out:529.4 lm



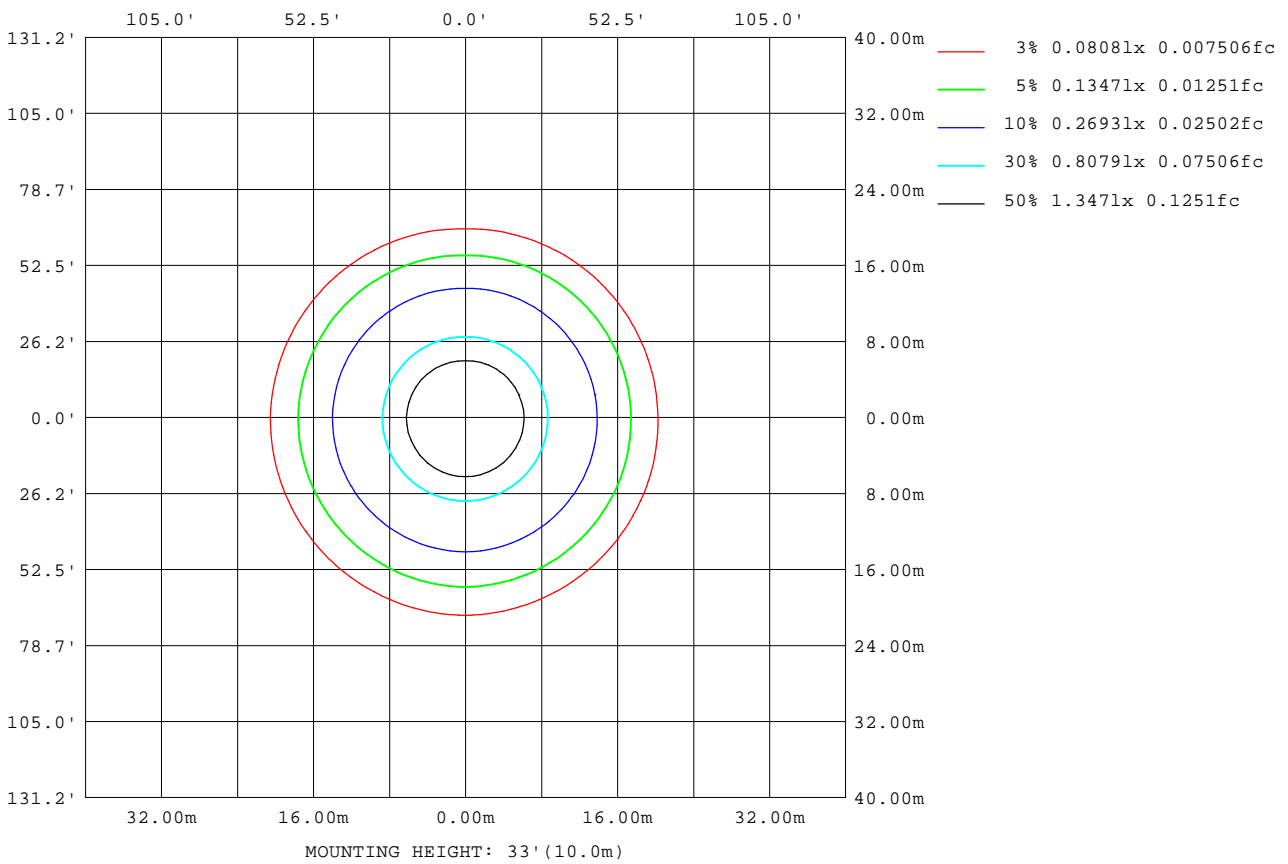
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2018-03-15

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.274
 Humidity: 65.0%
 Test Distance: 6.710m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

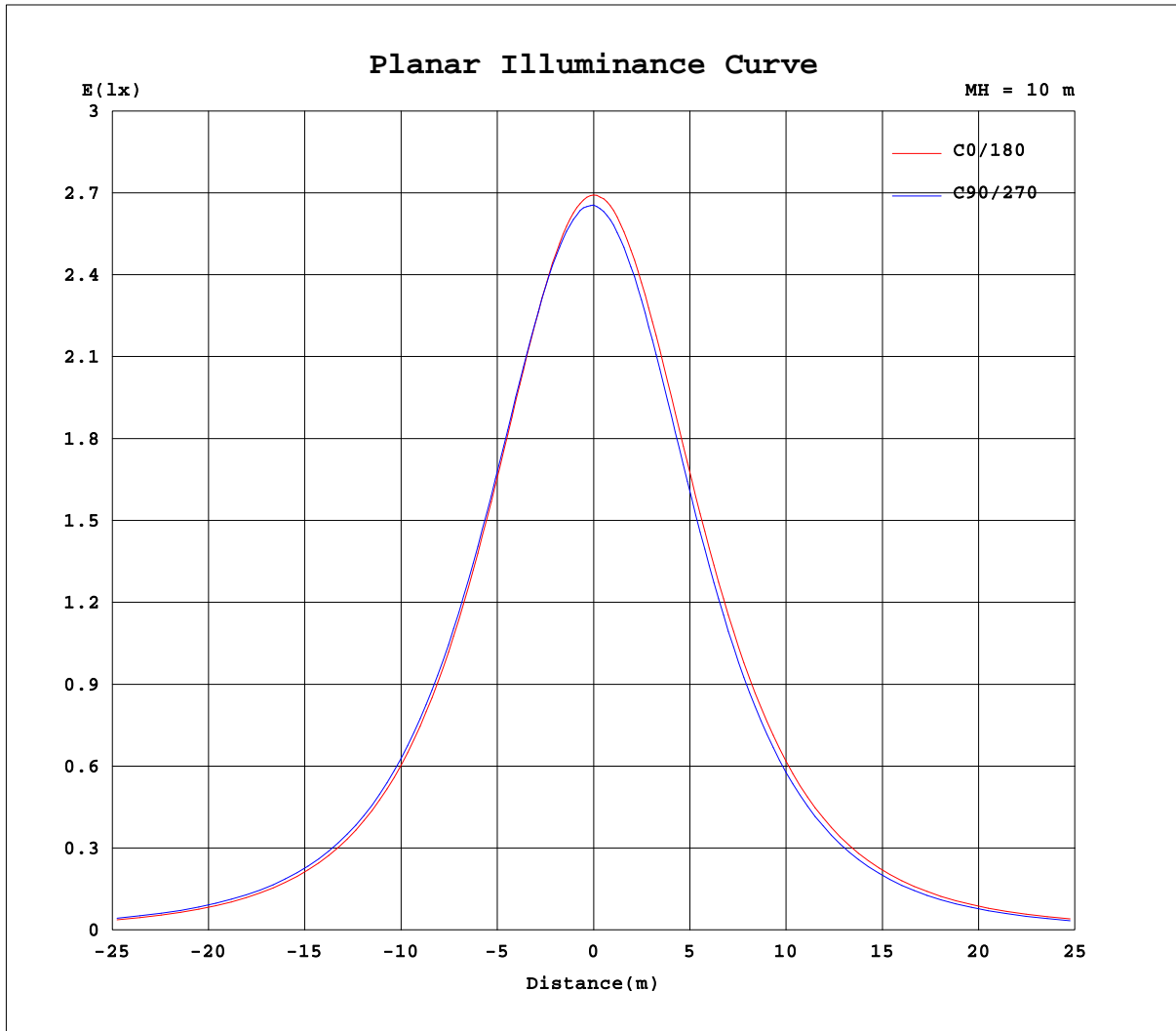
Test:U:110.6V I:0.1611A P:17.01W PF:0.9556 Lamp Flux:729.643x1 lm		
NAME:	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: 2700K	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2018-03-15

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.274
 Humidity: 65.0%
 Test Distance: 6.710m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2018-03-15

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.274
 Humidity: 65.0%
 Test Distance: 6.710m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:110.6V I:0.1611A P:17.01W PF:0.9556 Lamp Flux:729.643x1 lm		
NAME:	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: 2700K	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	90	180	270															
0	269	266	269	266															
5	268	265	268	263															
10	264	262	264	258															
15	257	257	258	251															
20	247	249	249	241															
25	236	238	238	229															
30	222	226	225	215															
35	207	212	210	199															
40	190	196	193	182															
45	171	178	175	163															
50	151	158	155	144															
55	130	138	135	123															
60	109	118	113	102															
65	87.2	96.8	91.9	80.7															
70	64.7	75.4	70.1	56.5															
75	42.7	54.4	48.4	28.8															
80	21.5	34.3	27.3	12.1															
85	2.76	15.9	8.00	0.24															
90	0.00	0.00	0.00	0.00															
95	0.00	0.00	0.00	0.00															
100	0.00	0.00	0.00	0.00															
105	0.00	0.00	0.00	0.00															
110	0.00	0.00	0.00	0.00															
115	0.00	0.00	0.00	0.00															
120	0.00	0.00	0.00	0.00															
125	0.00	0.00	0.00	0.00															
130	0.00	0.00	0.00	0.00															
135	0.00	0.00	0.00	0.00															
140	0.00	0.00	0.00	0.00															
145	0.00	0.00	0.00	0.00															
150	0.00	0.00	0.00	0.00															
155	0.00	0.00	0.00	0.00															
160	0.00	0.00	0.00	0.00															
165	0.00	0.00	0.00	0.00															
170	0.00	0.00	0.00	0.00															
175	0.00	0.00	0.00	0.00															
180	0.00	0.00	0.00	0.00															

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-03-15

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.274
 Humidity:65.0%
 Test Distance:6.710m [K=1.0000]
 Remarks: