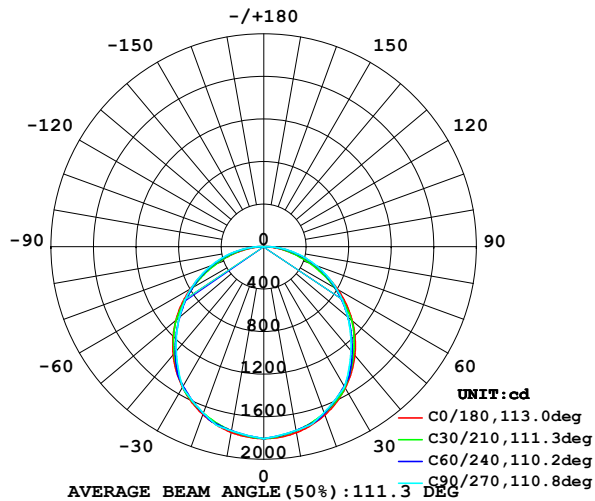


LUMINAIRE PHOTOMETRIC TEST REPORT

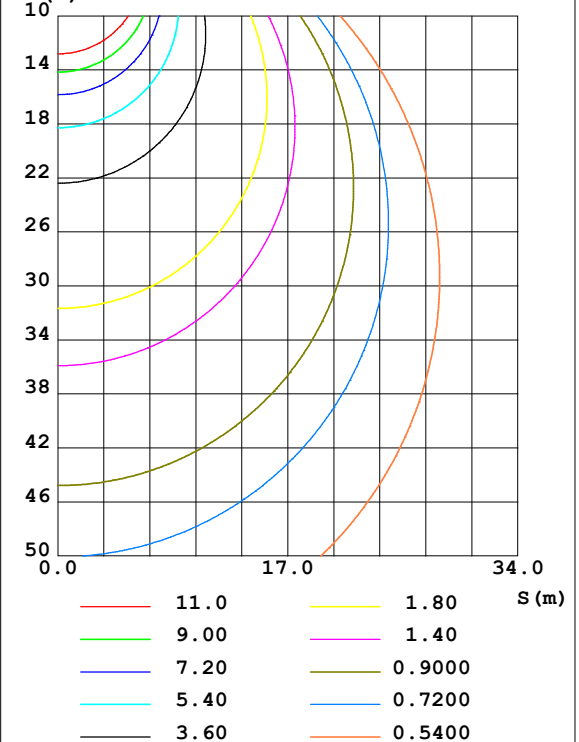
Test:U:230.6V I:0.2238A P:50.82W PF:0.9846 Lamp Flux:5144.33x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 101.22 lm/W			
MODEL		I _{max} (cd)	1805	S/MH (C0/180)	1.26
NOMINAL POWER(W)		LOR(%)	100.0	S/MH (C90/270)	1.25
RATED VOLTAGE(V)		TOTAL FLUX(lm)	5144.3	η UP,DN(C0-180)	0.0,49.8
NOMINAL FLUX(lm)	5144.33	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.2
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)		η down (%)	100.0	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2019-10-30

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.286
Humidity:65.0%
Test Distance:9.646m [K=1.0518]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
5	1798	1784	1780	1783	1796	1784	1781	1785	0- 5	42.86	42.86	0.83,0.83
10	1775	1755	1755	1753	1772	1755	1758	1757	5- 10	126.7	169.6	3.3,3.3
15	1736	1719	1730	1716	1733	1719	1735	1722	10- 15	206.5	376.1	7.31,7.31
20	1683	1676	1660	1672	1679	1676	1665	1681	15- 20	279.6	655.7	12.7,12.7
25	1616	1599	1590	1595	1610	1599	1596	1604	20- 25	342.5	998.2	19.4,19.4
30	1534	1512	1520	1508	1528	1512	1527	1518	25- 30	394.3	1393	27.1,27.1
35	1439	1421	1398	1416	1432	1421	1404	1427	30- 35	432.8	1825	35.5,35.5
40	1333	1320	1276	1315	1326	1321	1282	1326	35- 40	454.4	2280	44.3,44.3
45	1215	1182	1154	1177	1208	1182	1159	1188	40- 45	460.3	2740	53.3,53.3
50	1087	1044	1032	1036	1079	1042	1037	1049	45- 50	451.2	3191	62,62
55	948.5	905.0	910.2	895.5	942.3	903.2	914.1	910.4	50- 55	428.1	3619	70.4,70.4
60	802.1	768.1	788.2	754.9	796.4	765.9	791.5	773.0	55- 60	392.3	4012	78,78
65	649.5	632.6	657.8	615.5	644.1	630.7	659.9	638.4	60- 65	344.7	4356	84.7,84.7
70	492.2	499.1	527.3	480.4	487.9	498.5	528.3	505.7	65- 70	286.9	4643	90.3,90.3
75	337.6	369.3	396.9	354.0	335.1	369.5	396.7	374.9	70- 75	222.5	4866	94.6,94.6
80	195.3	244.0	266.4	233.4	193.5	244.4	265.1	248.0	75- 80	156.0	5022	97.6,97.6
85	74.38	122.5	135.9	117.3	71.90	122.2	133.4	124.1	80- 85	91.81	5114	99.4,99.4
90	2.090	3.327	5.492	3.577	2.053	1.883	1.826	1.864	85- 90	30.78	5144	100,100
95									90- 95			
100									95-100			
105									100-105			
110									105-110			
115									110-115			
120									115-120			
125									120-125			
130									125-130			
135									130-135			
140									135-140			
145									140-145			
150									145-150			
155									150-155			
160									155-160			
165									160-165			
170									165-170			
175									170-175			
180									175-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

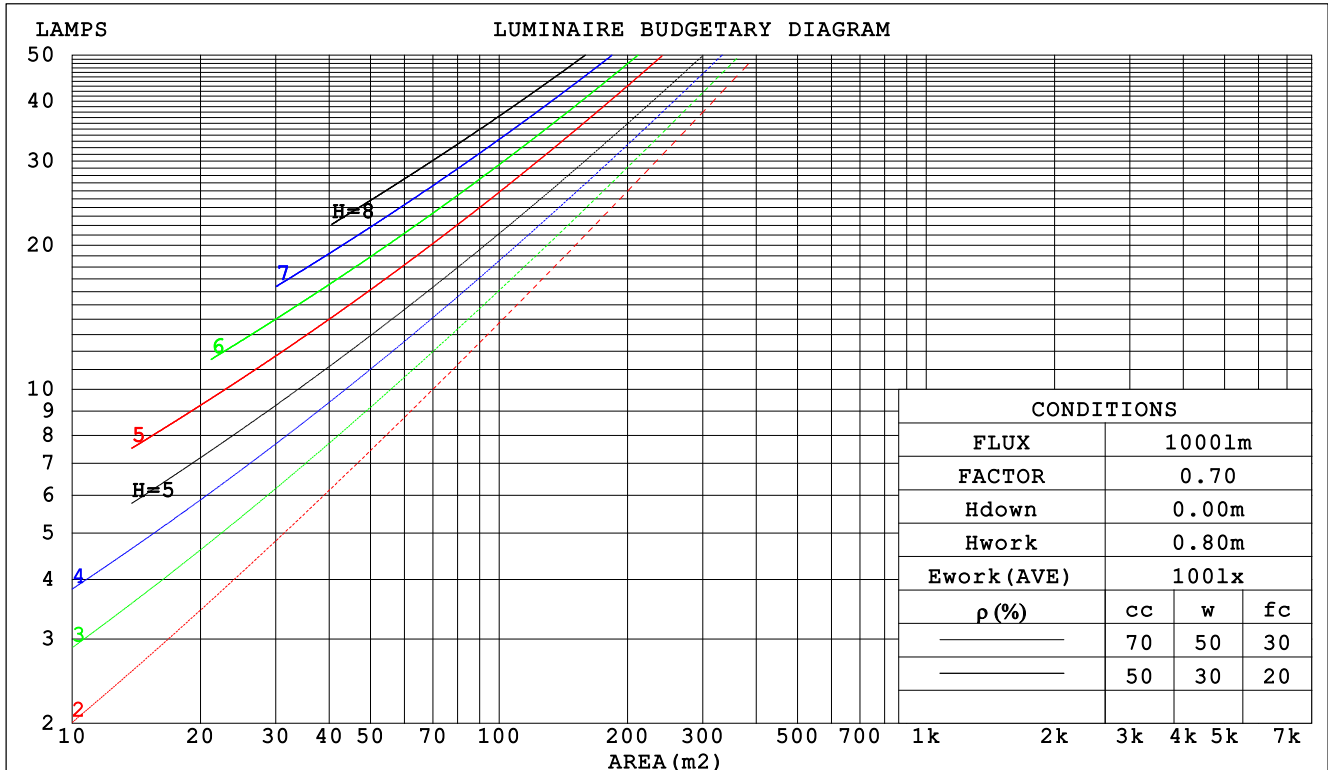
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-10-30

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.286
 Humidity:65.0%
 Test Distance:9.646m [K=1.0518]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.6V I:0.2238A P:50.82W PF:0.9846 Lamp Flux:5144.33x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	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	.00
1.0	1.04	.99	.95	1.01	.97	.94	.97	.94	.91	.93	.90	.88	.89	.87	.85	.83
2.0	.90	.83	.77	.88	.82	.76	.85	.79	.75	.81	.77	.73	.78	.75	.71	.69
3.0	.79	.71	.64	.77	.70	.63	.74	.68	.62	.72	.66	.61	.69	.64	.60	.58
4.0	.70	.61	.54	.69	.60	.54	.66	.59	.53	.64	.57	.52	.62	.56	.52	.49
5.0	.62	.53	.47	.61	.53	.46	.59	.52	.46	.57	.51	.45	.55	.49	.45	.43
6.0	.56	.47	.41	.55	.47	.40	.53	.46	.40	.52	.45	.40	.50	.44	.39	.37
7.0	.51	.42	.36	.50	.42	.36	.49	.41	.35	.47	.40	.35	.46	.40	.35	.33
8.0	.46	.38	.32	.46	.38	.32	.44	.37	.32	.43	.36	.31	.42	.36	.31	.29
9.0	.43	.34	.29	.42	.34	.29	.41	.34	.29	.40	.33	.28	.39	.33	.28	.26
10.0	.39	.31	.26	.39	.31	.26	.38	.31	.26	.37	.30	.26	.36	.30	.26	.24



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-10-30

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.286
 Humidity:65.0%
 Test Distance:9.646m [K=1.0518]
 Remarks:

WEC AND CCEC

Test:U:230.6V I:0.2238A P:50.82W PF:0.9846 Lamp Flux:5144.33x1 lm								
NAME:			TYPE:			WEIGHT:		
SPEC.:			DIM.:			SERIAL No.:		
MFR.:			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	.316	.180	.057	.309	.176	.056	.296	.170	.054	.284	.164	.053	.273	.158	.051		
2.0	.295	.162	.050	.289	.159	.049	.277	.154	.048	.267	.150	.047	.257	.145	.046		
3.0	.272	.145	.043	.267	.143	.043	.257	.139	.042	.247	.135	.041	.238	.132	.041		
4.0	.251	.130	.038	.246	.129	.038	.237	.126	.037	.228	.123	.037	.220	.120	.036		
5.0	.232	.118	.034	.227	.117	.034	.219	.114	.034	.211	.112	.033	.204	.109	.033		
6.0	.215	.108	.031	.211	.106	.031	.203	.104	.030	.197	.102	.030	.190	.100	.030		
7.0	.199	.099	.028	.196	.098	.028	.190	.096	.028	.184	.094	.027	.178	.092	.027		
8.0	.186	.091	.026	.183	.090	.025	.177	.089	.025	.172	.087	.025	.167	.086	.025		
9.0	.174	.084	.024	.172	.084	.023	.166	.082	.023	.162	.081	.023	.157	.080	.023		
10.0	.164	.079	.022	.162	.078	.022	.157	.077	.022	.152	.076	.022	.148	.075	.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	.181	.156	.134	.155	.134	.115	.106	.092	.080	.061	.053	.046	.020	.017	.015	
2.0	.173	.132	.098	.148	.114	.084	.101	.079	.059	.058	.046	.034	.019	.015	.011	
3.0	.165	.114	.074	.141	.099	.064	.097	.069	.045	.056	.040	.027	.018	.013	.009	
4.0	.157	.101	.058	.135	.087	.050	.093	.061	.036	.054	.036	.021	.017	.012	.007	
5.0	.150	.091	.047	.129	.078	.041	.089	.055	.029	.051	.032	.017	.017	.010	.006	
6.0	.143	.082	.039	.123	.071	.034	.085	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.136	.075	.033	.117	.065	.029	.081	.046	.020	.047	.027	.012	.015	.009	.004	
8.0	.129	.070	.029	.111	.060	.025	.077	.042	.018	.045	.025	.011	.014	.008	.003	
9.0	.123	.065	.025	.106	.056	.022	.073	.039	.016	.043	.023	.009	.014	.008	.003	
10.0	.117	.060	.022	.101	.052	.020	.070	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2019-10-30

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.286
Humidity:65.0%
Test Distance:9.646m [K=1.0518]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:230.6V I:0.2238A P:50.82W PF:0.9846 Lamp Flux:5144.33x1 lm											
NAME:					TYPE:			WEIGHT:			
SPEC.:					DIM.:			SERIAL No.:			
MFR.:					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	2H	16.1	17.7	16.4	17.9	18.1	16.1	17.6	16.3	17.8	18.0
	3H	17.6	19.0	17.9	19.2	19.5	17.8	19.2	18.1	19.4	19.7
	4H	18.1	19.4	18.4	19.7	20.0	18.5	19.9	18.8	20.1	20.4
	6H	18.4	19.7	18.7	19.9	20.2	19.2	20.4	19.5	20.7	21.0
	8H	18.5	19.7	18.8	20.0	20.3	19.4	20.6	19.7	20.9	21.2
	12H	18.5	19.7	18.9	20.0	20.3	19.6	20.8	19.9	21.1	21.4
4H	2H	16.7	18.1	17.0	18.3	18.6	16.7	18.0	17.0	18.3	18.5
	3H	18.3	19.5	18.7	19.8	20.1	18.6	19.8	18.9	20.1	20.4
	4H	19.0	20.0	19.3	20.4	20.7	19.5	20.6	19.9	20.9	21.2
	6H	19.4	20.3	19.8	20.7	21.0	20.3	21.2	20.7	21.6	22.0
	8H	19.5	20.4	19.9	20.7	21.1	20.6	21.5	21.0	21.9	22.2
	12H	19.5	20.4	20.0	20.8	21.2	20.8	21.7	21.3	22.1	22.5
8H	4H	19.3	20.2	19.7	20.6	20.9	19.8	20.7	20.2	21.0	21.4
	6H	19.9	20.6	20.3	21.0	21.5	20.8	21.5	21.2	21.9	22.3
	8H	20.1	20.7	20.5	21.2	21.6	21.2	21.9	21.6	22.3	22.7
	12H	20.2	20.8	20.7	21.2	21.7	21.6	22.1	22.0	22.6	23.1
12H	4H	19.3	20.2	19.8	20.6	21.0	19.8	20.6	20.2	21.0	21.4
	6H	20.0	20.7	20.5	21.1	21.5	20.8	21.5	21.3	21.9	22.4
	8H	20.3	20.8	20.7	21.3	21.8	21.3	21.9	21.8	22.3	22.8
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.2					+ 0.1 / - 0.2					
1.5H	+ 0.2 / - 0.2					+ 0.2 / - 0.3					
2.0H	+ 0.3 / - 0.4					+ 0.1 / - 0.3					

CIE Pub.117 Corrected 5144 lm Total Lamp Luminous Flux.(8log(F/F0) = 5.7)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2019-10-30

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.286
Humidity:65.0%
Test Distance:9.646m [K=1.0518]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:230.6V I:0.2238A P:50.82W PF:0.9846 Lamp Flux:5144.33x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	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) $k(RI) \times RCR = 5$									
$k = 0.60$	57	46	39	57	46	39	55	45	38	32
0.80	67	56	48	66	55	48	65	54	48	41
1.00	76	65	57	75	64	57	72	65	56	49
1.25	83	72	65	81	71	65	79	70	64	56
1.50	88	78	71	86	77	70	83	75	69	62
2.00	95	86	79	93	85	79	89	83	77	69
2.50	99	91	85	96	89	84	93	87	82	73
3.00	102	95	89	100	93	88	96	90	86	78
4.00	106	100	95	104	98	94	99	95	91	82
5.00	108	103	99	106	102	98	101	98	95	85
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2019-10-30

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.286
 Humidity: 65.0%
 Test Distance: 9.646m [K=1.0518]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:230.6V I:0.2238A P:50.82W PF:0.9846 Lamp Flux:5144.33x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

Conical surface Flux(90deg):

2740 lm

%lum = 53.3%

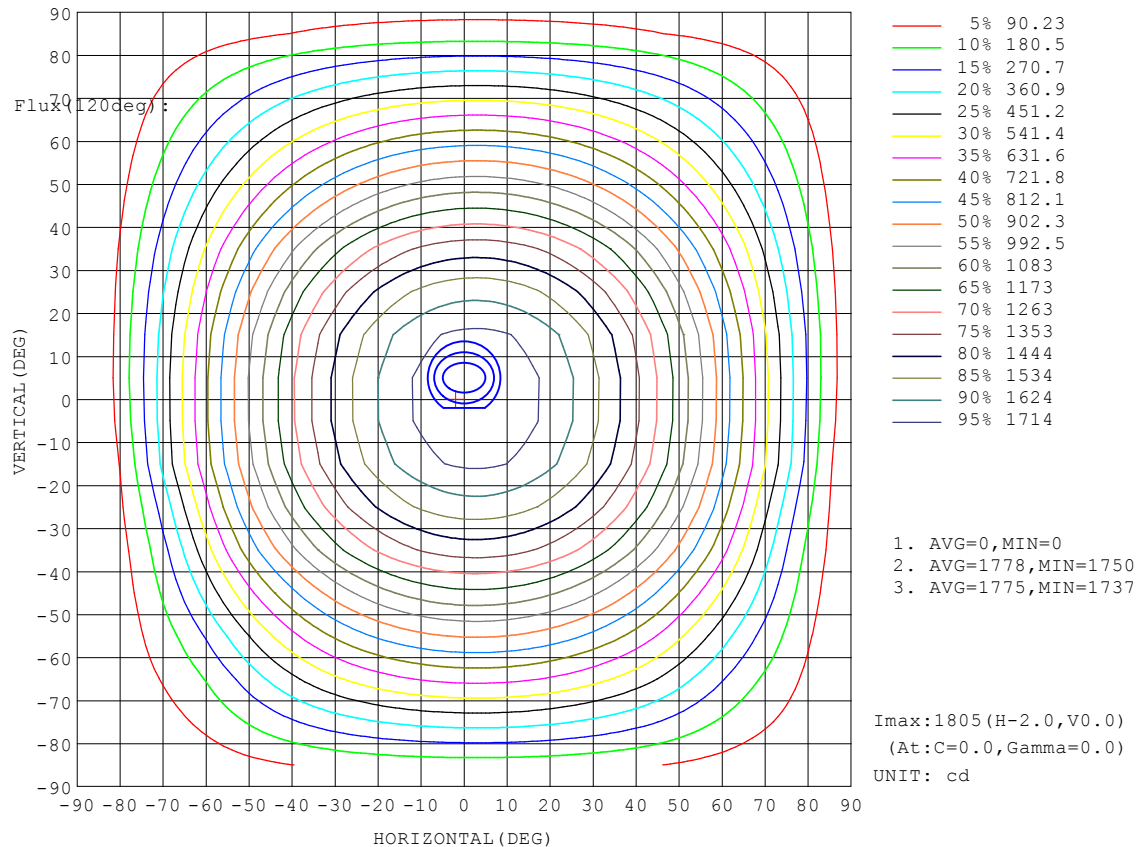
%lamp = 53.3%

Conical surface Flux(120deg):

4011.6 lm

%lum = 78.0%

%lamp = 78.0%

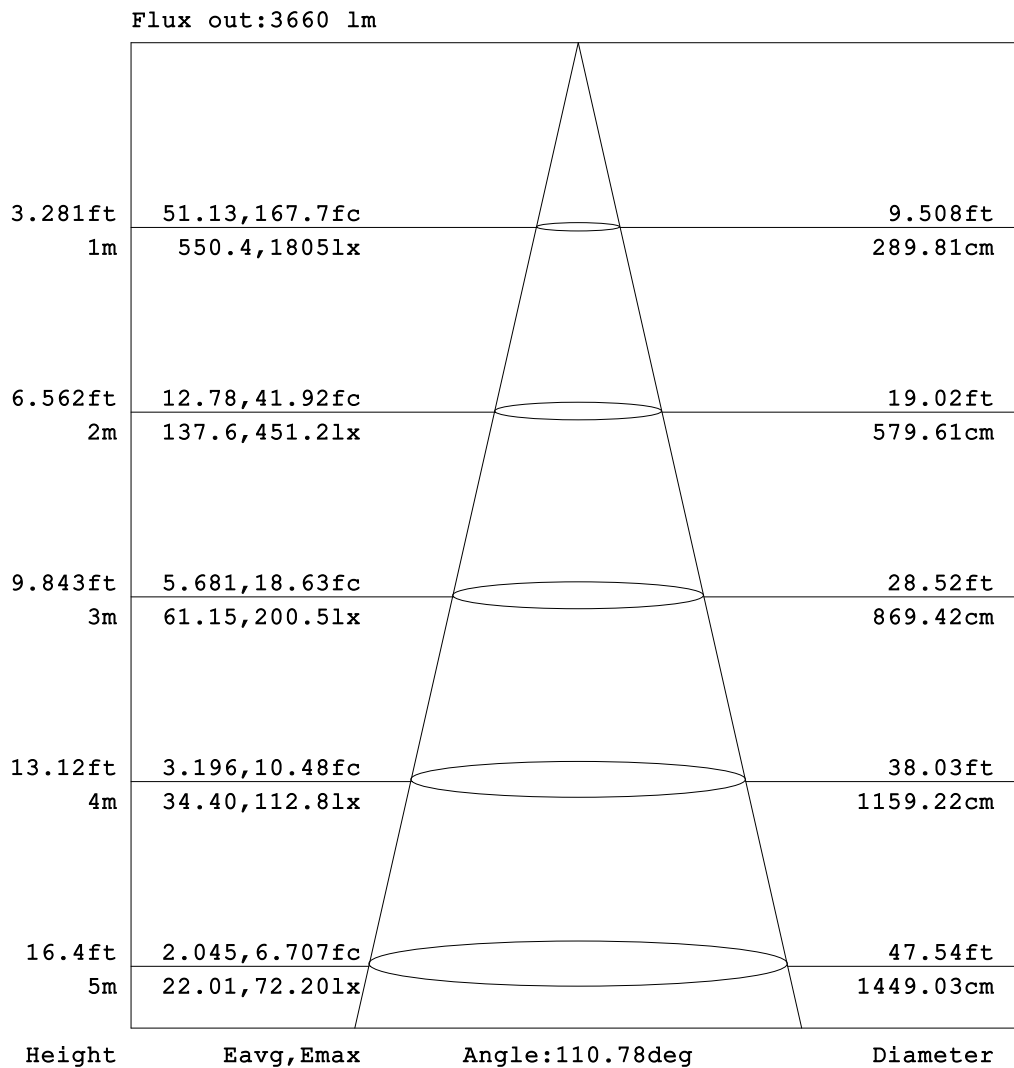


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2019-10-30

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.286
Humidity:65.0%
Test Distance:9.646m [K=1.0518]
Remarks:

AAI Figure

Test:U:230.6V I:0.2238A P:50.82W PF:0.9846 Lamp Flux:5144.33x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:



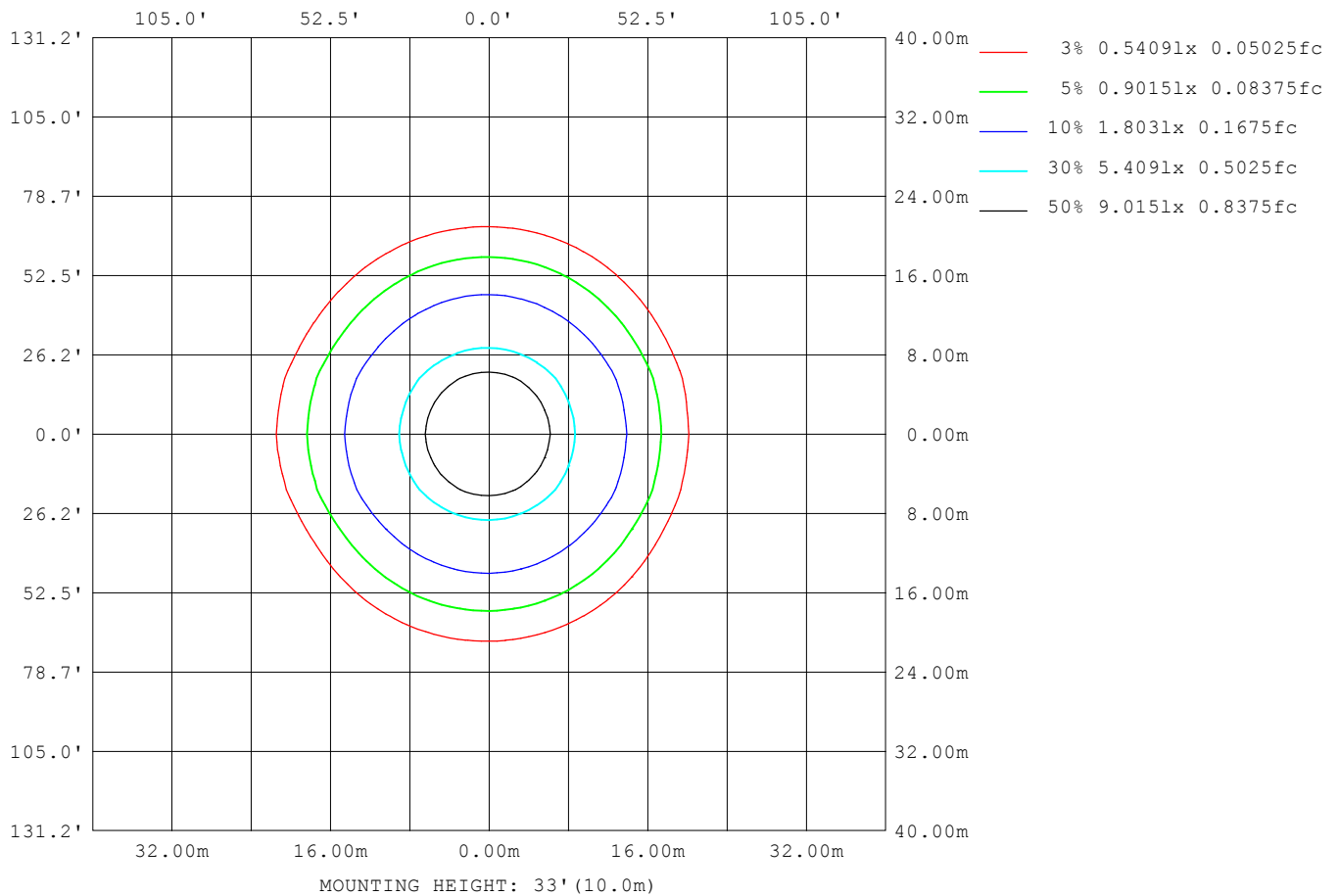
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2019-10-30

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.286
Humidity:65.0%
Test Distance:9.646m [K=1.0518]
Remarks:

ISOLUX DIAGRAM

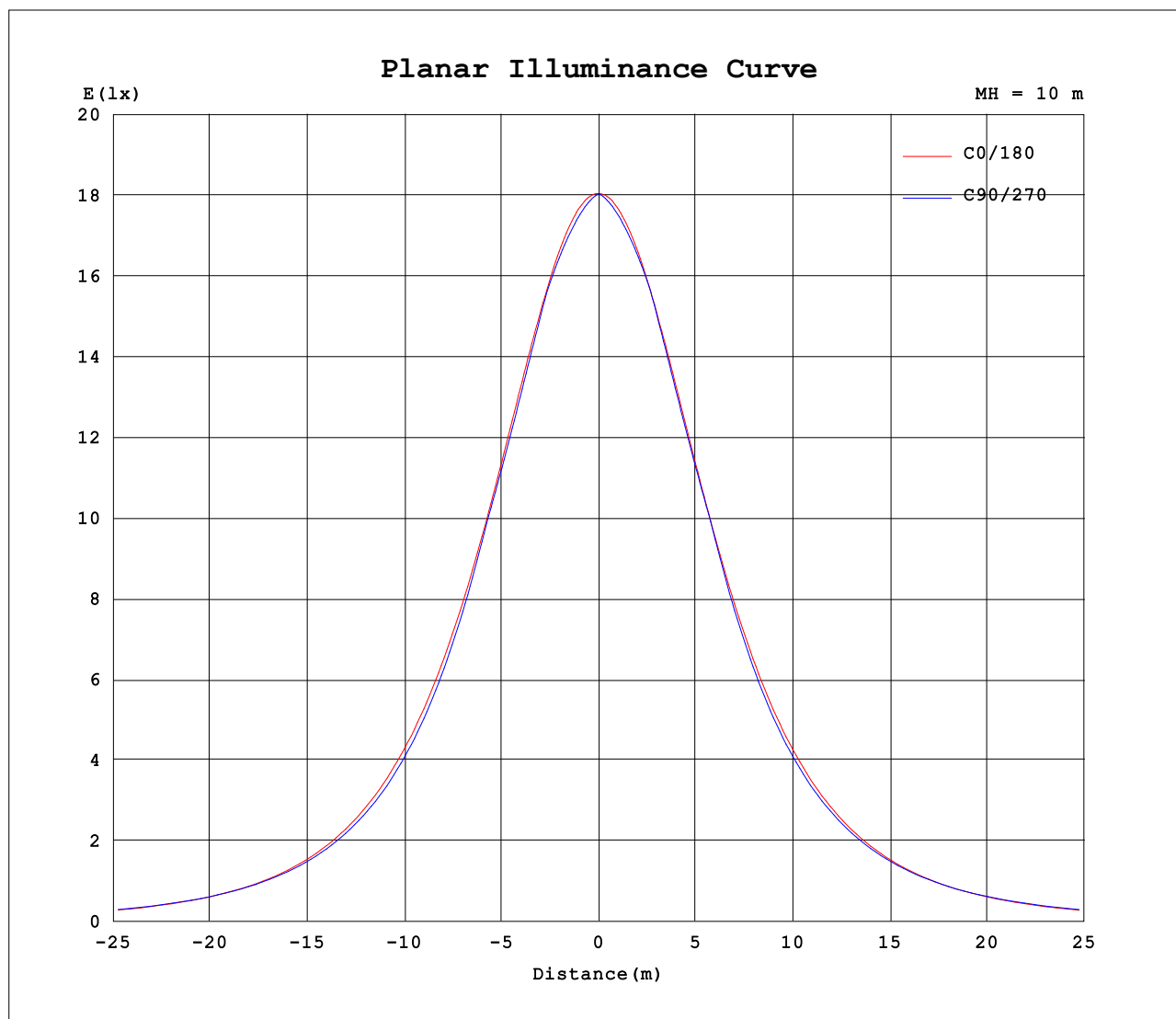
Test:U:230.6V I:0.2238A P:50.82W PF:0.9846 Lamp Flux:5144.33x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2019-10-30

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.286
Humidity:65.0%
Test Distance:9.646m [K=1.0518]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2019-10-30

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.286
Humidity: 65.0%
Test Distance: 9.646m [K=1.0518]
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.286
Humidity:65.0%
Test Distance:9.646m [K=1.0518]
Remarks:

```

```

γ Range: 0 - 90DEG
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Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.286
Humidity:65.0%
Test Distance:9.646m [K=1.0518]
Remarks:

```

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.286
Humidity:65.0%
Test Distance:9.646m [K=1.0518]
Remarks:

```

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.286
Humidity:65.0%
Test Distance:9.646m [K=1.0518]
Remarks:

```