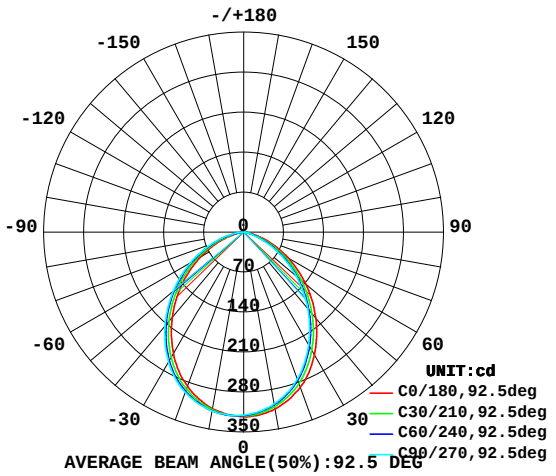
LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:231.3V I:0.0350A P:7.300W PF:0.9560 Lamp Flux:697.229x1 lm		
NAME: UP-CL59-8W-3000K-D	TYPE:8W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.0292	PROTECTION ANGLE:

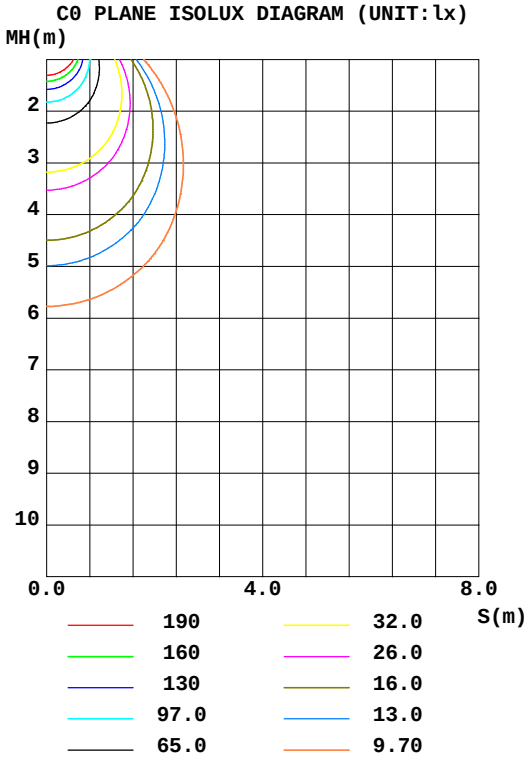
DATA OF LAMP		PHOTOMETRIC DATA		Eff: 95.51 lm/W	
MODEL	UP-CL59-8W-3000K-D	Imax(cd)	323.3	S/MH(C0/180)	1.15
NOMINAL POWER(W)	8	LOR(%)	100.0	S/MH(C90/270)	1.09
RATED VOLTAGE(V)	232	TOTAL FLUX(lm)	697.23	η UP,DN(C0-180)	0.0,46.0
NOMINAL FLUX(lm)	697.229	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,54.0
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	231.3	η down(%)	100.0	CIBSE SHR MAX	1.25

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



AVERAGE BEAM ANGLE(50%):92.5 DEG

C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-05-16

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.700m [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	314.9	308.8	305.7	306.4	314.0	316.7	318.1	316.1	0- 10	30.23	30.23	4.34,4.34
20	289.5	279.6	274.3	276.6	287.8	294.7	299.0	295.3	10- 20	84.93	115.2	16.5,16.5
30	248.0	234.6	228.0	231.5	246.2	257.3	263.5	258.4	20- 30	123.2	238.4	34.2,34.2
40	196.4	181.8	174.6	179.2	194.5	207.6	214.7	209.2	30- 40	137.9	376.3	54,54
50	142.1	127.6	120.0	124.8	140.2	153.8	161.1	155.8	40- 50	129.3	505.6	72.5,72.5
60	89.31	75.35	68.01	72.50	86.99	100.5	107.7	102.7	50- 60	101.8	607.4	87.1,87.1
70	41.93	30.27	24.15	27.36	38.97	51.23	58.13	53.87	60- 70	62.75	670.2	96.1,96.1
80	9.416	6.314	4.661	5.029	6.515	9.139	15.35	15.92	70- 80	24.43	694.6	99.6,99.6
90	0.3093	0.4009	0.4609	0.3188	0.2715	0.2115	0.2525	0.2999	80- 90	2.649	697.2	100,100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
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Test Speed: HIGH
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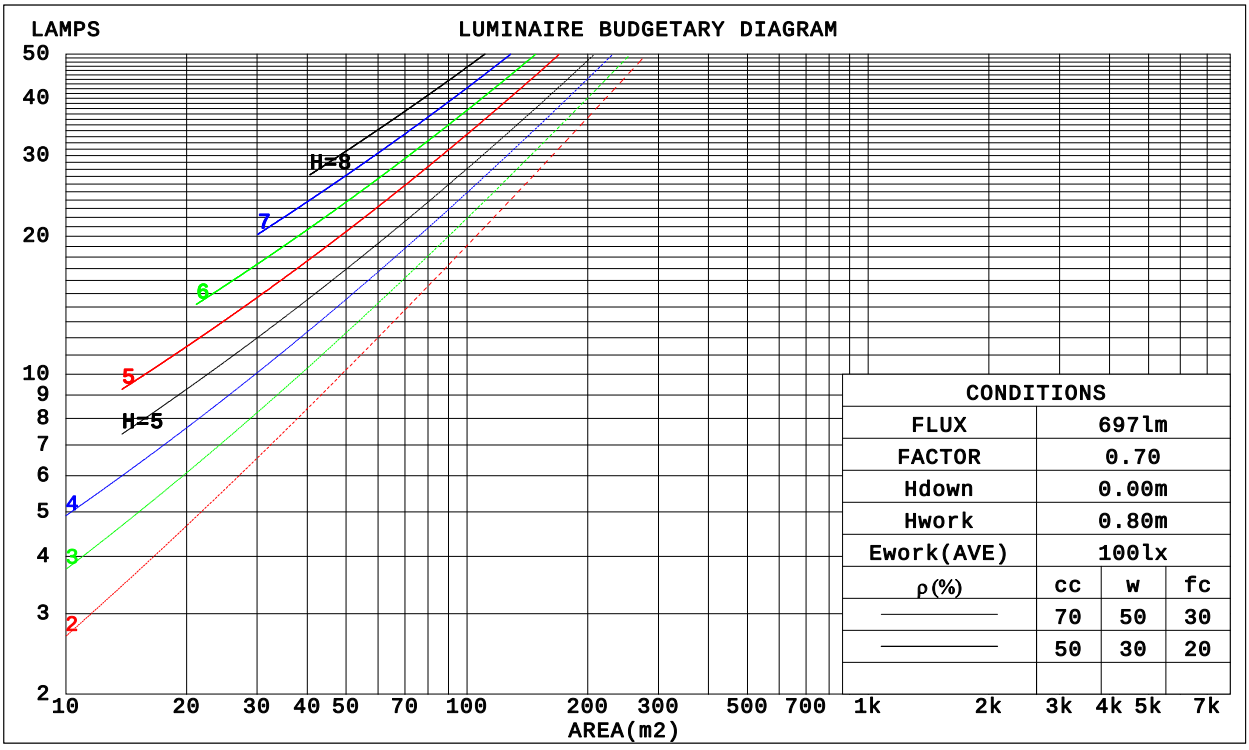
γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.700m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:231.3V I:0.0350A P:7.300W PF:0.9560 Lamp Flux:697.229x1 lm		
NAME: UP-CL59-8W-3000K-D	TYPE:8W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.0292	PROTECTION 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			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	1.06	1.03	.99	1.04	1.01	.98	.00	.97	.95	.96	.94	.92	.93	.91	.89	.87
2.0	.94	.88	.83	.92	.87	.82	.89	.84	.80	.86	.82	.79	.83	.80	.77	.75
3.0	.84	.77	.71	.82	.76	.70	.79	.74	.69	.77	.72	.68	.74	.70	.67	.65
4.0	.75	.67	.61	.74	.66	.61	.71	.65	.60	.69	.63	.59	.67	.62	.58	.56
5.0	.68	.59	.53	.67	.59	.53	.65	.58	.52	.63	.57	.52	.61	.56	.51	.49
6.0	.61	.53	.47	.60	.53	.47	.59	.52	.46	.57	.51	.46	.55	.50	.46	.44
7.0	.56	.48	.42	.55	.47	.42	.54	.47	.41	.52	.46	.41	.51	.45	.41	.39
8.0	.51	.43	.38	.51	.43	.38	.49	.42	.37	.48	.42	.37	.47	.41	.37	.35
9.0	.47	.39	.34	.47	.39	.34	.46	.39	.34	.44	.38	.34	.44	.38	.34	.32
10.0	.44	.36	.31	.43	.36	.31	.42	.36	.31	.41	.35	.31	.40	.35	.31	.29



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γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.700m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:231.3V I:0.0350A P:7.300W PF:0.9560 Lamp Flux:697.229x1 lm		
NAME: UP-CL59-8W-3000K-D	TYPE:8W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.0292	PROTECTION 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 Coeffcients(WEC)									
0.0																
1.0	.263	.150	.047	.256	.146	.046	.243	.139	.045	.231	.133	.043	.220	.128	.041	
2.0	.255	.140	.043	.249	.137	.042	.238	.132	.041	.227	.128	.040	.218	.123	.039	
3.0	.241	.128	.038	.236	.126	.038	.226	.122	.037	.217	.119	.036	.208	.115	.036	
4.0	.226	.117	.035	.221	.116	.034	.212	.113	.034	.204	.110	.033	.197	.107	.033	
5.0	.211	.108	.031	.207	.106	.031	.199	.104	.031	.192	.101	.030	.185	.099	.030	
6.0	.198	.099	.028	.194	.098	.028	.187	.096	.028	.181	.094	.028	.175	.092	.027	
7.0	.186	.092	.026	.182	.091	.026	.176	.089	.026	.170	.087	.025	.165	.086	.025	
8.0	.175	.085	.024	.172	.085	.024	.166	.083	.024	.161	.081	.024	.156	.080	.023	
9.0	.165	.080	.022	.162	.079	.022	.157	.078	.022	.152	.076	.022	.148	.075	.022	
10.0	.155	.075	.021	.153	.074	.021	.149	.073	.020	.144	.072	.020	.140	.071	.020	

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	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.177	.157	.138	.152	.134	.119	.104	.092	.082	.060	.053	.048	.019	.017	.015	
2.0	.167	.132	.102	.143	.114	.089	.098	.079	.062	.057	.046	.036	.018	.015	.012	
3.0	.159	.114	.078	.136	.098	.068	.094	.068	.048	.054	.040	.028	.017	.013	.009	
4.0	.151	.100	.062	.130	.087	.054	.089	.061	.038	.052	.035	.022	.017	.012	.007	
5.0	.144	.090	.050	.124	.078	.043	.085	.054	.031	.049	.032	.018	.016	.010	.006	
6.0	.137	.081	.041	.118	.070	.036	.081	.049	.026	.047	.029	.015	.015	.009	.005	
7.0	.130	.074	.035	.112	.064	.030	.078	.045	.022	.045	.027	.013	.015	.009	.004	
8.0	.124	.068	.030	.107	.059	.026	.074	.042	.019	.043	.025	.011	.014	.008	.004	
9.0	.119	.064	.026	.102	.055	.023	.071	.039	.016	.041	.023	.010	.013	.008	.003	
10.0	.113	.059	.023	.098	.051	.020	.068	.036	.014	.040	.021	.009	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-05-16

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.700m [K=1.0000]
Remarks:

Uncorrected UGR Table

Test:U:231.3V I:0.0350A P:7.300W PF:0.9560 Lamp Flux:697.229x1 lm		
NAME: UP-CL59-8W-3000K-D	TYPE:8W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.0292	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	18.9	20.3	19.2	20.5	20.7	18.0	19.4	18.3	19.6	19.8
	3H	19.7	21.0	20.0	21.2	21.5	18.5	19.7	18.7	20.0	20.2
	4H	19.9	21.1	20.2	21.4	21.6	18.5	19.7	18.8	19.9	20.2
	6H	19.9	21.1	20.3	21.3	21.6	18.4	19.6	18.7	19.8	20.1
	8H	19.9	21.0	20.3	21.3	21.6	18.4	19.5	18.7	19.8	20.0
	12H	19.9	21.0	20.2	21.2	21.5	18.3	19.4	18.7	19.7	20.0
4H	2H	19.1	20.3	19.4	20.6	20.8	18.4	19.6	18.7	19.8	20.1
	3H	20.0	21.1	20.4	21.4	21.7	18.9	20.0	19.3	20.3	20.6
	4H	20.3	21.2	20.6	21.6	21.9	19.0	19.9	19.3	20.2	20.6
	6H	20.4	21.2	20.7	21.5	21.9	19.0	19.8	19.3	20.1	20.5
	8H	20.4	21.2	20.8	21.5	21.9	18.9	19.7	19.3	20.1	20.5
	12H	20.4	21.1	20.8	21.5	21.9	18.9	19.6	19.3	20.0	20.4
8H	4H	20.2	21.0	20.6	21.4	21.8	19.0	19.8	19.4	20.1	20.5
	6H	20.3	21.0	20.8	21.4	21.8	19.0	19.6	19.4	20.0	20.5
	8H	20.4	21.0	20.8	21.4	21.8	19.0	19.5	19.4	20.0	20.4
	12H	20.4	20.9	20.9	21.3	21.8	18.9	19.4	19.4	19.9	20.3
12H	4H	20.2	20.9	20.6	21.3	21.7	18.9	19.7	19.4	20.0	20.4
	6H	20.3	20.9	20.8	21.3	21.8	19.0	19.5	19.4	20.0	20.4
	8H	20.4	20.9	20.8	21.3	21.8	19.0	19.5	19.4	19.9	20.4

Variations with the observer position at spacings:		
S = 1.0H	+ 0.3 / - 0.4	+ 0.5 / - 0.7
1.5H	+ 0.2 / - 0.4	+ 0.2 / - 0.4
2.0H	+ 0.8 / - 1.0	+ 0.8 / - 1.1

CIE Pub.117 Corrected 697.2 lm Total Lamp Luminous Flux.(8log(F/F0) = -1.3)

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-05-16

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.700m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:231.3V I:0.0350A P:7.300W PF:0.9560 Lamp Flux:697.229x1 lm		
NAME: UP-CL59-8W-3000K-D	TYPE:8W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.0292	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	63	52	46	62	52	45	61	51	45	39
0.80	73	62	56	72	62	56	70	61	55	49
1.00	81	71	65	80	71	65	78	72	64	58
1.25	88	79	73	87	78	72	84	77	71	65
1.50	93	84	78	91	83	77	88	81	76	70
2.00	99	91	86	97	90	85	94	88	84	77
2.50	102	95	90	100	94	89	97	92	88	80
3.00	105	99	95	103	98	93	99	95	91	83
4.00	109	104	100	106	102	98	102	99	96	87
5.00	111	106	103	108	105	101	104	101	98	90
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004				Suspended					SHRNOM = 1.25	

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Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
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ISOCANDELA DIAGRAM

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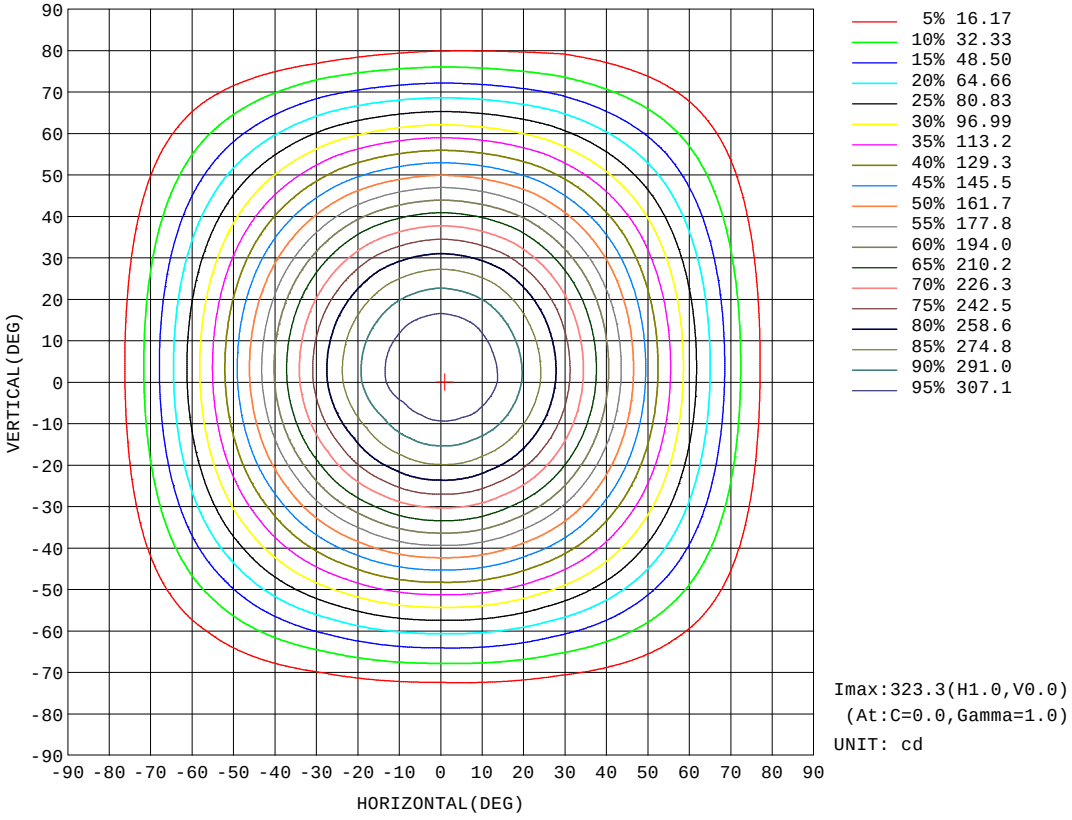
MFR.:	SUR.:0.0292	PROTECTION ANGLE:



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AAI Figure

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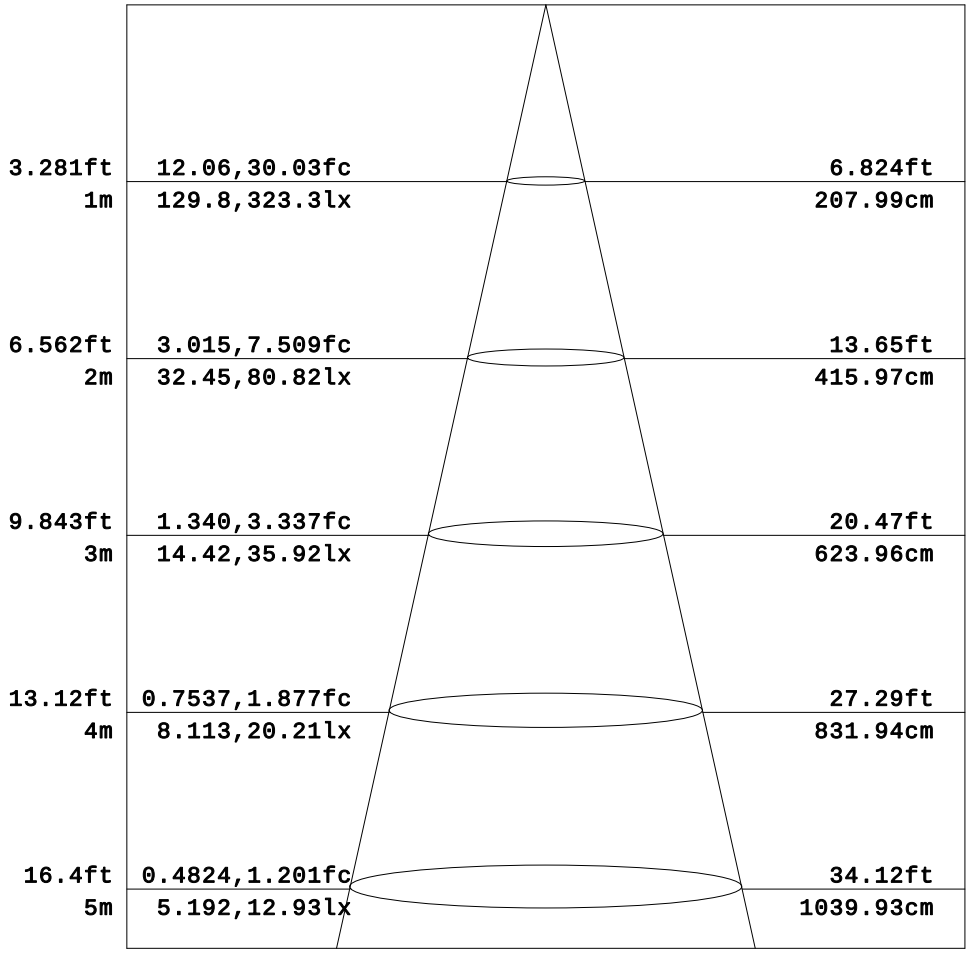
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.0292	PROTECTION ANGLE:

Flux out:469.0 lm



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

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ISOLUX DIAGRAM

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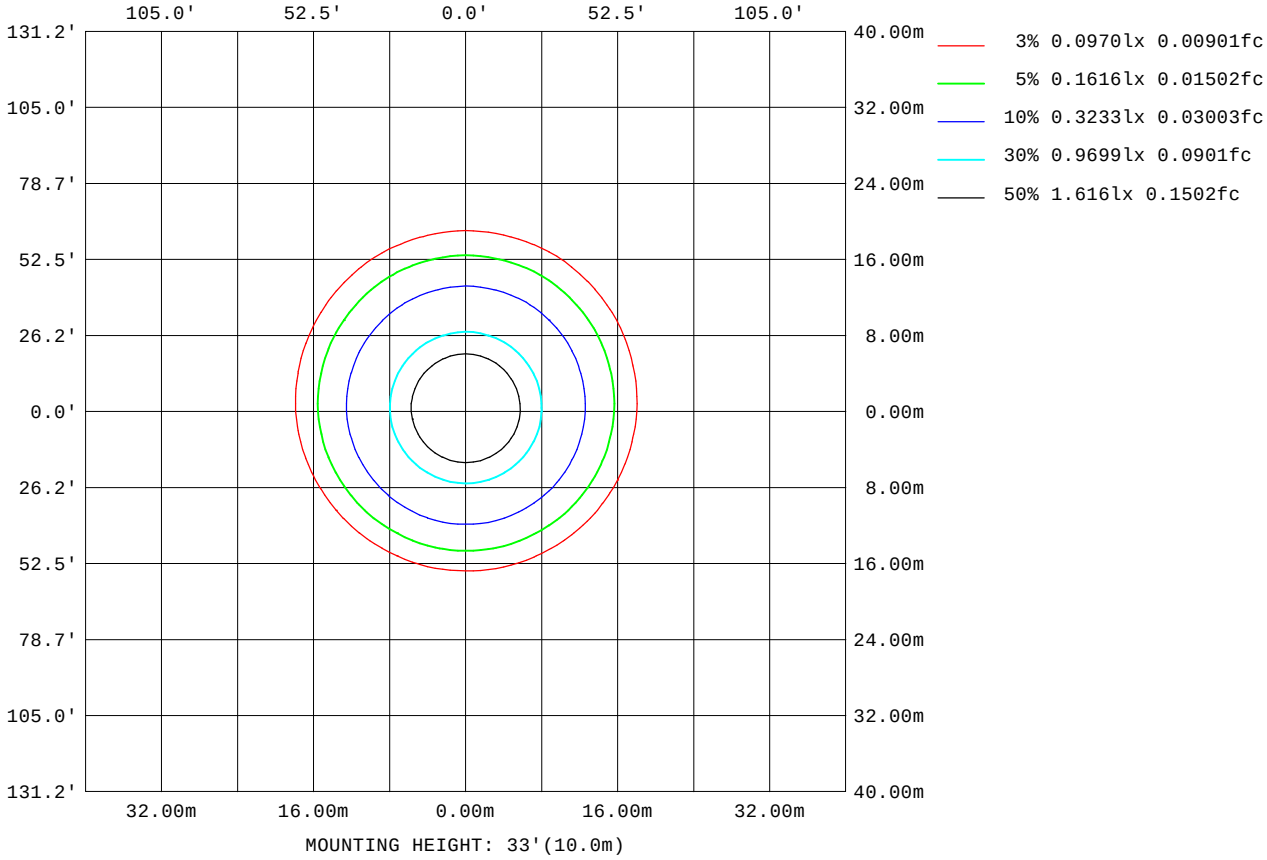
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.0292	PROTECTION ANGLE:



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Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
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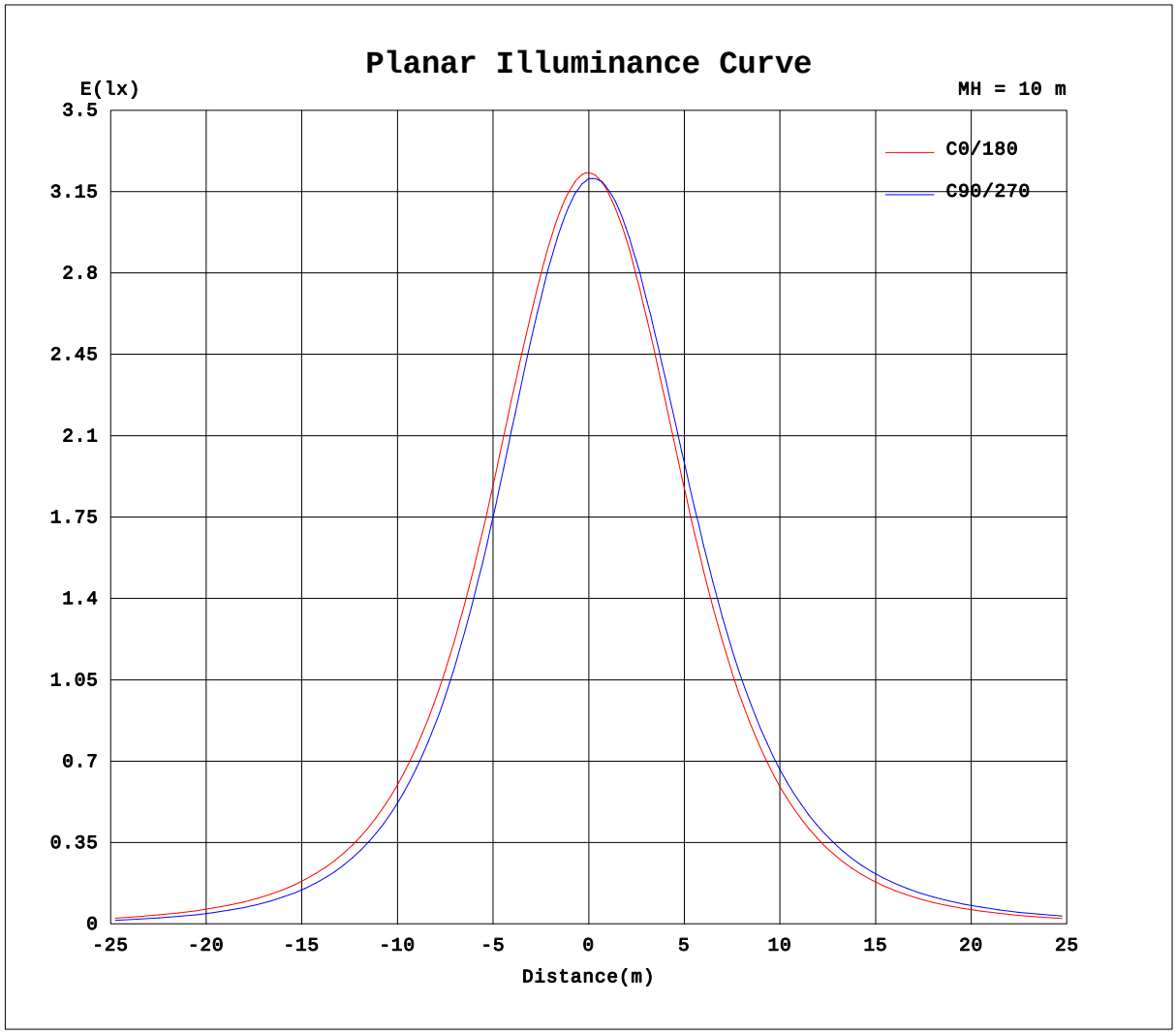
Test Distance:9.700m [K=1.0000]
Remarks:

Planar Illuminance Curve



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LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:231.3V I:0.0350A P:7.300W PF:0.9560 Lamp Flux:697.229x1 lm		
NAME: UP-CL59-8W-3000K-D	TYPE:8W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.0292	PROTECTION ANGLE:

Table--1 UNIT: cd

γ (DEG) \ C(DEG)	0	30	60	90	120	150	180	210	240	270	300	330
0	323	322	321	321	320	320	323	322	321	321	320	320
5	321	319	316	315	315	316	321	321	322	321	321	319
10	315	311	307	306	306	307	314	316	318	318	317	315
15	304	299	294	292	292	295	303	306	309	311	309	306
20	289	283	277	274	275	279	288	293	297	299	297	293
25	271	262	255	252	253	258	269	276	281	283	282	276
30	248	239	231	228	229	234	246	254	261	264	262	255
35	223	213	205	202	203	209	221	230	237	240	238	231
40	196	186	178	175	176	183	194	204	212	215	213	205
45	170	159	150	147	149	155	168	177	185	188	187	179
50	142	132	123	120	121	128	140	150	158	161	160	152
55	115	105	96.7	93.4	94.8	102	113	123	131	134	133	125
60	89.3	79.5	71.2	68.0	69.2	75.8	87.0	96.3	105	108	106	99.1
65	64.5	55.4	47.5	44.5	45.3	51.6	61.9	70.9	79.0	82.2	80.9	74.0
70	41.9	33.7	26.8	24.1	24.8	30.0	39.0	47.4	55.1	58.1	57.0	50.7
75	22.6	16.2	11.5	10.0	10.3	13.5	19.9	26.7	33.5	36.3	35.5	30.1
80	9.42	7.20	5.43	4.66	4.81	5.25	6.52	8.55	9.73	15.4	17.9	14.0
85	2.67	1.46	0.23	0.21	0.20	0.20	0.23	0.18	0.21	0.77	2.66	3.32
90	0.31	0.32	0.49	0.46	0.38	0.26	0.27	0.21	0.21	0.25	0.29	0.31

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-05-16

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.700m [K=1.0000]
Remarks: