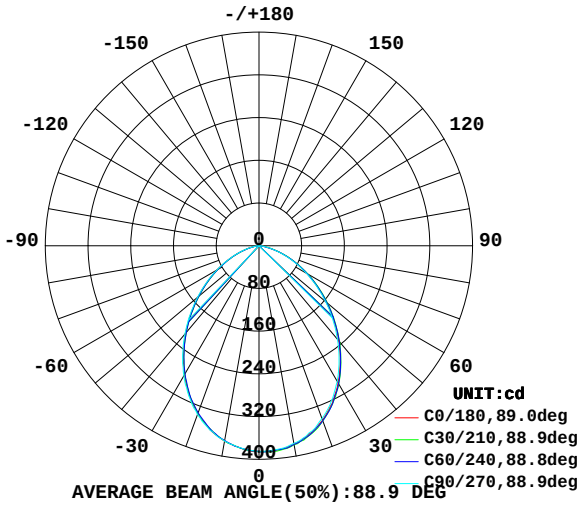
LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:240.1V I:0.0380A P:8.760W PF:0.9470 Lamp Flux:804.138x1 lm		
NAME: CL22-3-8W-P3	TYPE:8W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.037	PROTECTION ANGLE:

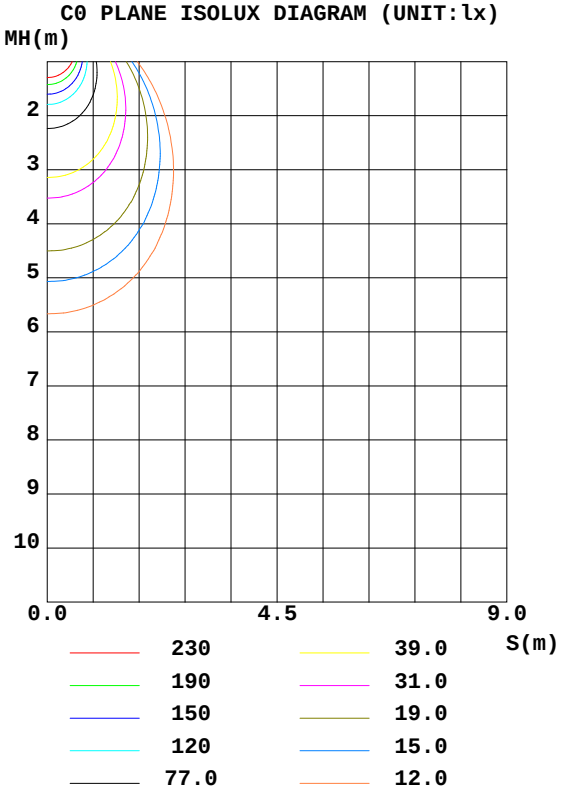
DATA OF LAMP		PHOTOMETRIC DATA Eff: 91.80 lm/W			
MODEL	CL22-3-8W-P3	Imax(cd)	386.5	S/MH(C0/180)	1.15
NOMINAL POWER(W)	8	LOR(%)	100.0	S/MH(C90/270)	1.15
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	804.14	η UP,DN(C0-180)	0.0,51.2
NOMINAL FLUX(lm)	804.138	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,48.8
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	240.2	η down(%)	100.0	CIBSE SHR MAX	1.25

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



AVERAGE BEAM ANGLE(50%):88.9 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:2019-07-04

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.443m [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	377.1	378.0	375.7	374.0	371.7	370.8	371.3	375.7	0- 10	36.26	36.26	4.51,4.51
20	347.9	348.9	344.4	339.2	334.5	333.7	336.5	342.2	10- 20	101.4	137.7	17.1,17.1
30	296.4	298.6	293.3	285.1	278.9	277.6	281.3	289.9	20- 30	145.4	283.1	35.2,35.2
40	232.1	234.6	228.5	220.5	214.1	211.8	215.9	225.1	30- 40	159.8	442.9	55.1,55.1
50	164.4	167.0	162.8	154.8	149.2	147.0	150.3	158.8	40- 50	146.1	589.0	73.2,73.2
60	102.9	104.9	101.8	95.31	91.08	88.90	91.71	98.67	50- 60	112.7	701.7	87.3,87.3
70	50.30	51.57	49.30	45.20	42.89	41.30	43.15	47.79	60- 70	69.83	771.6	95.9,95.9
80	13.15	11.77	12.54	9.222	10.05	8.330	10.33	10.81	70- 80	28.09	799.6	99.4,99.4
90	0	0	0	0	0	0	0	0.0004	80- 90	4.489	804.1	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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γ Range: 0 - 90DEG
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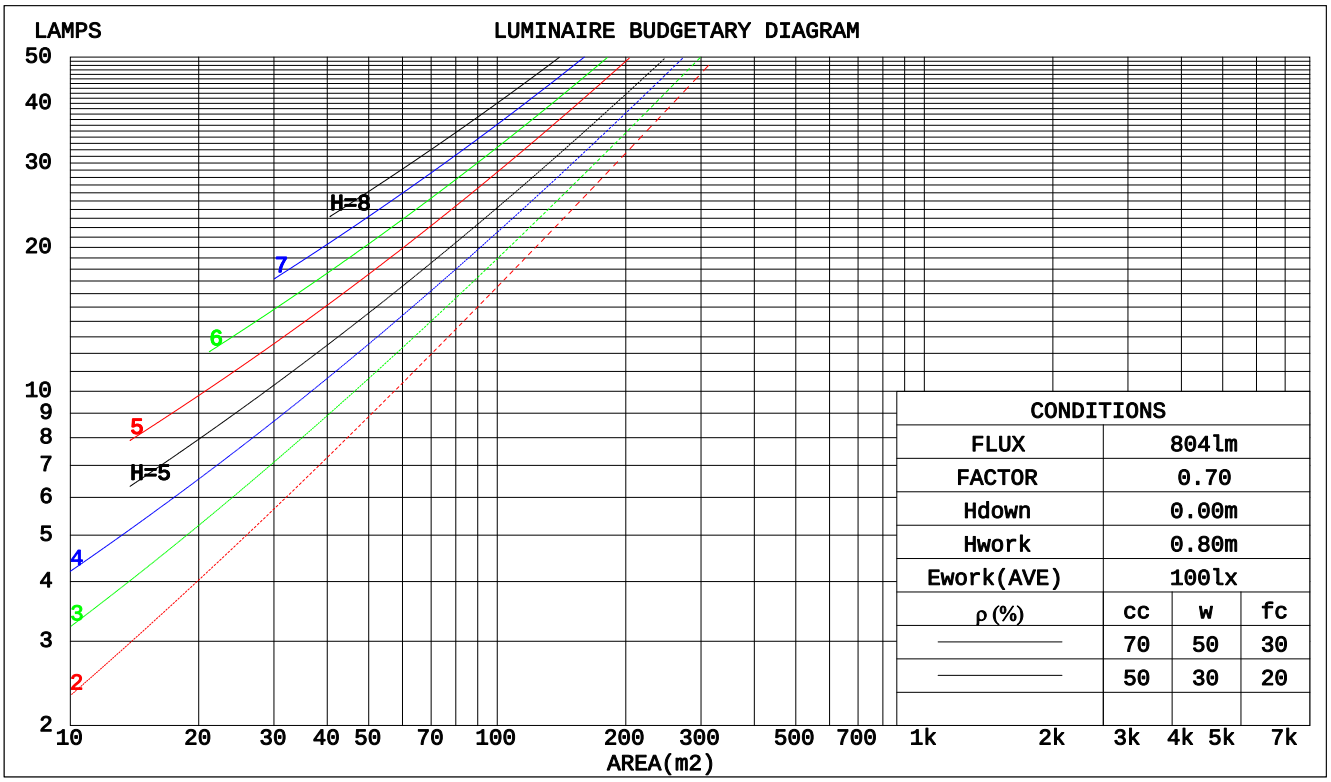
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.443m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:240.1V I:0.0380A P:8.760W PF:0.9470 Lamp Flux:804.138x1 lm		
NAME: CL22-3-8W-P3	TYPE:8W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.037	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	1.00
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	.93	.87	.82	.89	.84	.81	.86	.82	.79	.83	.80	.77	.75
3.0	.84	.77	.71	.83	.76	.70	.80	.74	.69	.77	.72	.68	.75	.70	.67	.65
4.0	.75	.67	.61	.74	.67	.61	.72	.65	.60	.69	.64	.59	.67	.63	.59	.57
5.0	.68	.60	.54	.67	.59	.53	.65	.58	.53	.63	.57	.52	.61	.56	.52	.50
6.0	.62	.54	.48	.61	.53	.47	.59	.52	.47	.57	.51	.47	.56	.50	.46	.44
7.0	.56	.48	.43	.56	.48	.42	.54	.47	.42	.53	.46	.42	.51	.46	.41	.40
8.0	.52	.44	.38	.51	.43	.38	.50	.43	.38	.49	.42	.38	.47	.42	.38	.36
9.0	.48	.40	.35	.47	.40	.35	.46	.39	.35	.45	.39	.34	.44	.38	.34	.32
10.0	.44	.37	.32	.44	.37	.32	.43	.36	.32	.42	.36	.31	.41	.35	.31	.30



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2019-07-04

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.443m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:240.1V I:0.0380A P:8.760W PF:0.9470 Lamp Flux:804.138x1 lm		
NAME: CL22-3-8W-P3	TYPE:8W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.037	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	.149	.047	.256	.146	.046	.243	.139	.044	.231	.133	.043	.220	.127	.041	
2.0	.254	.139	.043	.248	.136	.042	.236	.131	.041	.226	.127	.040	.216	.122	.039	
3.0	.239	.127	.038	.234	.125	.038	.224	.121	.037	.215	.118	.036	.206	.114	.035	
4.0	.224	.117	.034	.220	.115	.034	.211	.112	.033	.203	.109	.033	.195	.106	.032	
5.0	.210	.107	.031	.206	.106	.031	.198	.103	.030	.191	.101	.030	.184	.098	.030	
6.0	.197	.099	.028	.193	.097	.028	.186	.095	.028	.179	.093	.027	.173	.091	.027	
7.0	.184	.091	.026	.181	.090	.026	.175	.088	.025	.169	.087	.025	.164	.085	.025	
8.0	.173	.085	.024	.170	.084	.024	.165	.082	.024	.160	.081	.023	.155	.079	.023	
9.0	.163	.079	.022	.161	.078	.022	.156	.077	.022	.151	.076	.022	.147	.074	.022	
10.0	.154	.074	.021	.152	.073	.020	.148	.072	.020	.143	.071	.020	.139	.070	.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	.151	.134	.119	.104	.092	.082	.060	.053	.048	.019	.017	.015	
2.0	.167	.132	.103	.143	.114	.089	.098	.079	.062	.057	.046	.036	.018	.015	.012	
3.0	.159	.114	.079	.136	.098	.068	.093	.068	.048	.054	.040	.028	.017	.013	.009	
4.0	.151	.100	.062	.129	.087	.054	.089	.060	.038	.051	.035	.022	.017	.012	.007	
5.0	.143	.090	.050	.123	.078	.044	.085	.054	.031	.049	.032	.018	.016	.010	.006	
6.0	.136	.081	.042	.117	.070	.036	.081	.049	.026	.047	.029	.015	.015	.009	.005	
7.0	.130	.074	.035	.112	.064	.031	.077	.045	.022	.045	.027	.013	.014	.009	.004	
8.0	.124	.068	.030	.107	.059	.026	.074	.042	.019	.043	.025	.011	.014	.008	.004	
9.0	.118	.063	.026	.102	.055	.023	.071	.039	.016	.041	.023	.010	.013	.007	.003	
10.0	.113	.059	.023	.097	.051	.020	.067	.036	.015	.039	.021	.009	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 30.0DEG
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Operators:DAMIN
Test Date:2019-07-04

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.443m [K=1.0000]
Remarks:

Uncorrected UGR Table

Test:U:240.1V I:0.0380A P:8.760W PF:0.9470 Lamp Flux:804.138x1 lm		
NAME: CL22-3-8W-P3	TYPE:8W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.037	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	26.8	28.2	27.0	28.4	28.6	26.7	28.1	27.0	28.3	28.5
3H	27.7	28.9	28.0	29.2	29.4	27.6	28.9	27.9	29.1	29.3
4H	27.9	29.1	28.2	29.4	29.6	27.8	29.0	28.1	29.3	29.5
6H	28.0	29.1	28.3	29.4	29.7	27.9	29.0	28.2	29.3	29.6
8H	28.0	29.1	28.3	29.3	29.6	27.9	29.0	28.2	29.2	29.5
12H	28.0	29.0	28.3	29.3	29.6	27.8	28.9	28.2	29.2	29.5
4H 2H	27.2	28.4	27.5	28.6	28.9	27.2	28.4	27.5	28.6	28.9
3H	28.2	29.3	28.6	29.6	29.9	28.2	29.2	28.5	29.5	29.8
4H	28.6	29.5	28.9	29.8	30.1	28.5	29.4	28.8	29.7	30.1
6H	28.7	29.5	29.1	29.9	30.2	28.6	29.4	29.0	29.8	30.1
8H	28.7	29.5	29.1	29.9	30.2	28.6	29.3	29.0	29.7	30.1
12H	28.7	29.4	29.1	29.8	30.2	28.6	29.3	29.0	29.6	30.0
8H 4H	28.6	29.4	29.0	29.8	30.1	28.5	29.3	28.9	29.7	30.1
6H	28.8	29.5	29.3	29.9	30.3	28.7	29.3	29.1	29.7	30.1
8H	28.9	29.4	29.3	29.9	30.3	28.7	29.3	29.1	29.7	30.1
12H	28.9	29.4	29.4	29.8	30.3	28.7	29.2	29.2	29.6	30.1
12H 4H	28.6	29.3	29.0	29.7	30.1	28.5	29.2	28.9	29.6	30.0
6H	28.8	29.4	29.3	29.8	30.2	28.7	29.2	29.1	29.6	30.1
8H	28.9	29.3	29.3	29.8	30.3	28.7	29.2	29.2	29.6	30.1
Variations with the observer position at spacings:										
S = 1.0H	+ 0.4 / - 0.4					+ 0.4 / - 0.5				
1.5H	+ 0.1 / - 0.3					+ 0.1 / - 0.4				
2.0H	+ 0.6 / - 0.6					+ 0.6 / - 0.6				

CIE Pub.117 Corrected 804.1 lm Total Lamp Luminous Flux.(8log(F/F0) = -0.8)

C Range: 0 - 360DEG
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Operators:DAMIN
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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:9.443m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:240.1V I:0.0380A P:8.760W PF:0.9470 Lamp Flux:804.138x1 lm		
NAME: CL22-3-8W-P3	TYPE:8W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.037	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	53	46	63	53	46	62	52	46	40
0.80	73	63	57	73	63	56	71	62	56	50
1.00	82	72	65	81	71	65	78	72	65	58
1.25	88	79	73	87	79	73	85	77	72	65
1.50	93	84	78	91	84	78	89	82	77	70
2.00	99	92	86	97	91	85	94	88	84	77
2.50	102	96	91	100	94	90	97	92	88	80
3.00	105	99	95	103	98	94	99	95	91	84
4.00	109	104	100	106	102	99	102	99	96	88
5.00	111	107	103	108	105	102	104	101	99	90
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004				Suspended					SHRNOM = 1.25	

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ISOCANDELA DIAGRAM

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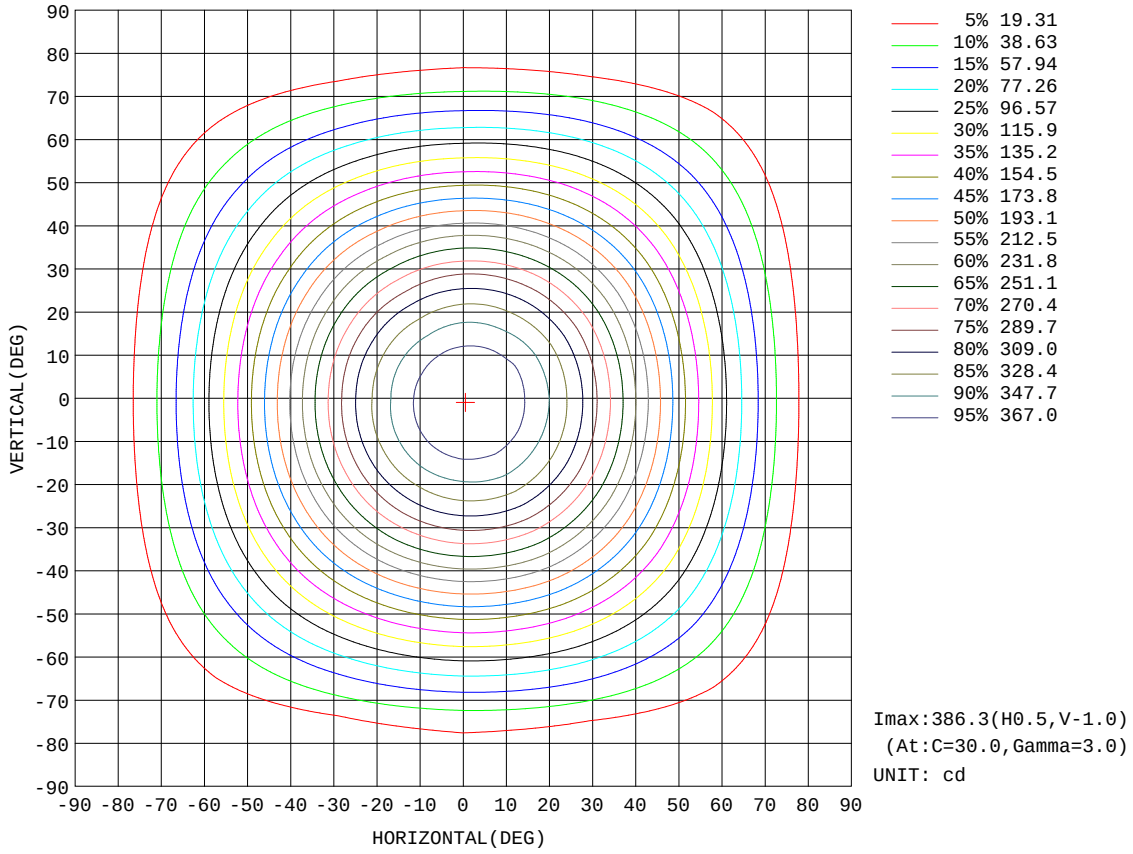
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.037	PROTECTION ANGLE:



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AAI Figure

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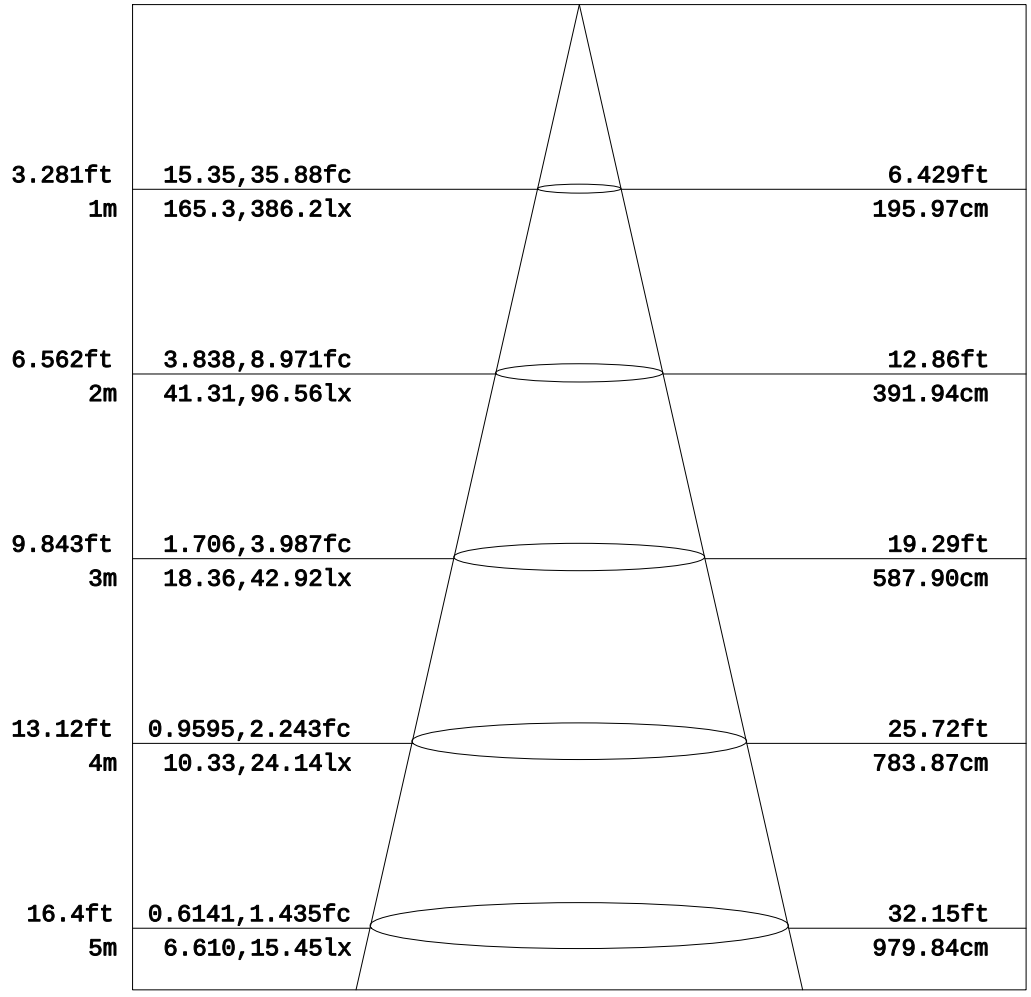
NAME: CL22-3-8W-P3	TYPE:8W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.037	PROTECTION ANGLE:

Flux out:519.1 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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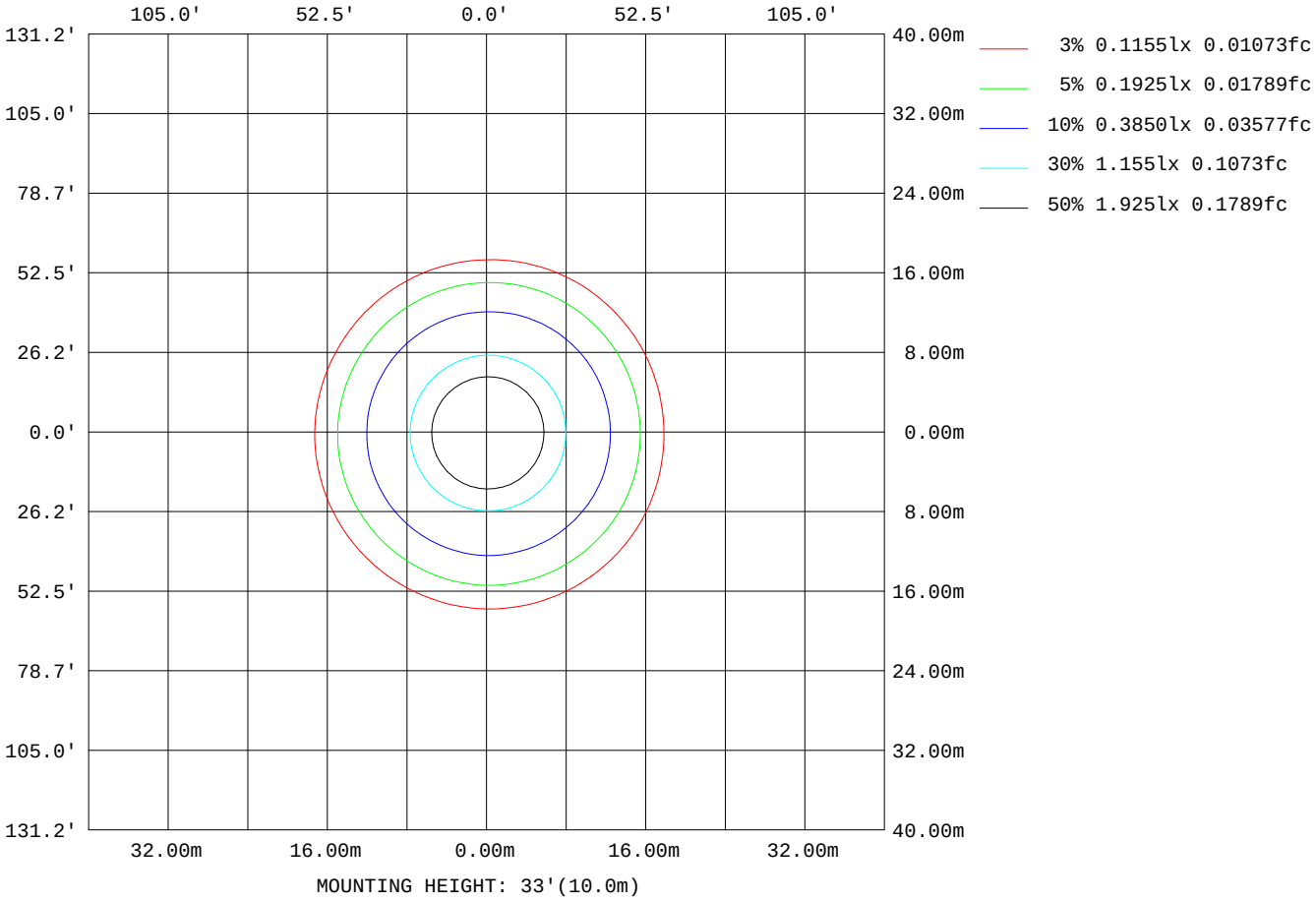
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.037	PROTECTION ANGLE:



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Humidity:65.0%
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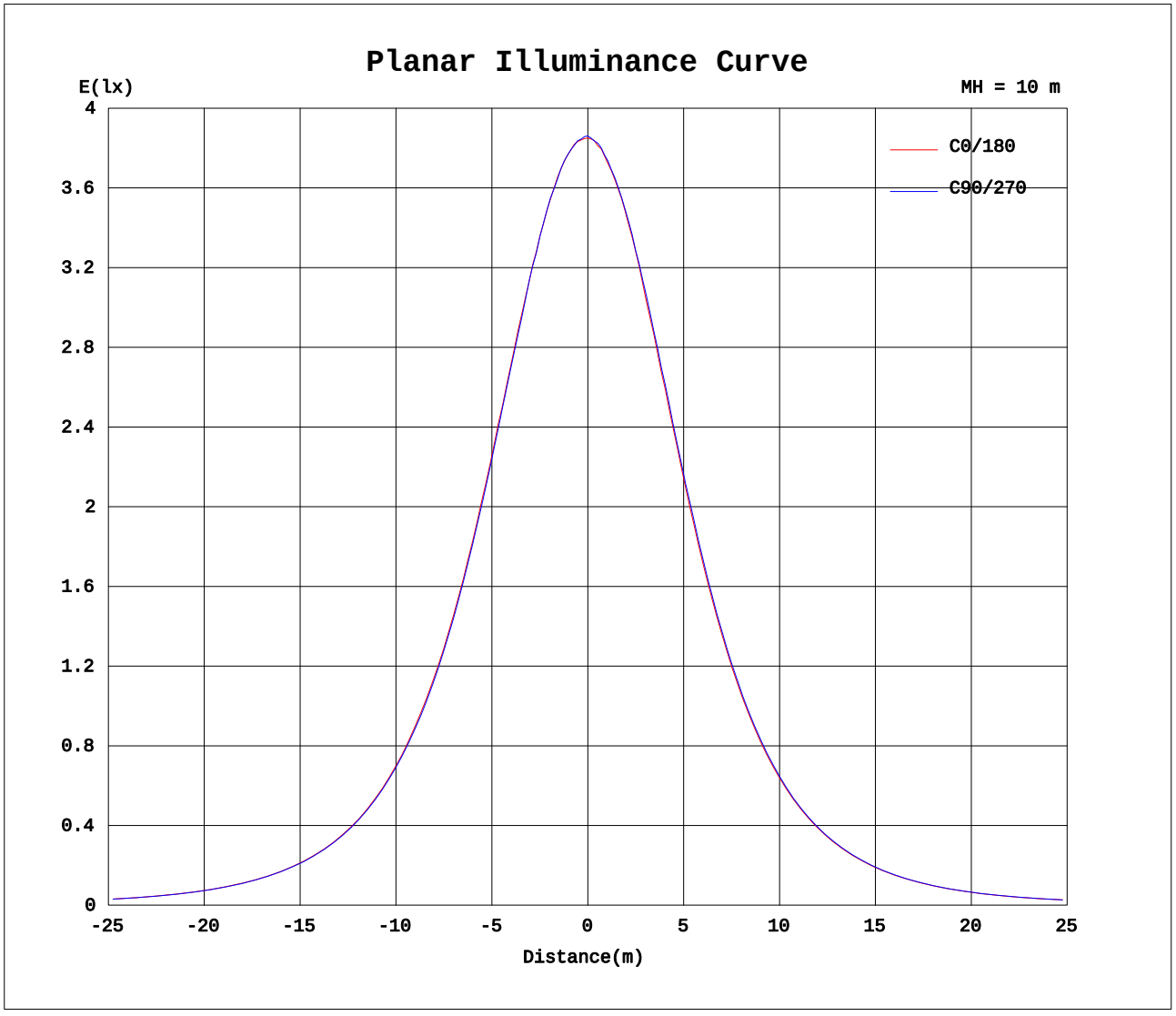
Remarks:

Planar Illuminance Curve



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LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:240.1V I:0.0380A P:8.760W PF:0.9470 Lamp Flux:804.138x1 lm		
NAME: CL22-3-8W-P3	TYPE:8W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.037	PROTECTION ANGLE:

Table--1 UNIT: cd

γ (DEG) \ C(DEG)	0	30	60	90	120	150	180	210	240	270	300	330
0	385	385	385	385	385	385	385	385	385	385	385	385
5	384	386	384	383	382	382	381	381	381	380	383	384
10	377	378	378	376	375	373	372	371	371	371	375	377
15	365	367	367	363	360	359	356	355	355	357	361	364
20	348	349	349	344	341	337	334	334	333	336	340	344
25	325	326	326	321	317	312	309	308	307	311	316	321
30	296	299	298	293	288	282	279	278	277	281	287	293
35	265	268	267	261	256	251	247	245	245	249	255	262
40	232	235	234	229	223	218	214	212	212	216	222	228
45	198	201	200	195	190	185	181	179	179	183	188	195
50	164	168	166	163	157	153	149	147	147	150	156	161
55	133	136	135	131	126	122	119	117	117	120	126	130
60	103	105	104	102	97.1	93.5	91.1	88.7	89.1	91.7	96.7	101
65	75.0	77.4	76.3	74.1	70.2	67.4	65.5	63.3	63.7	65.8	70.1	73.4
70	50.3	52.1	51.1	49.3	46.1	44.3	42.9	41.1	41.5	43.1	46.6	49.0
75	29.0	30.2	27.6	28.2	22.7	24.7	24.0	22.8	21.8	24.3	25.8	28.4
80	13.1	13.8	9.72	12.5	8.02	10.4	10.0	9.34	7.32	10.3	8.81	12.8
85	4.62	4.90	4.13	4.33	3.28	3.47	3.39	3.17	2.94	3.60	3.64	4.55
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2019-07-04

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.443m [K=1.0000]
Remarks: