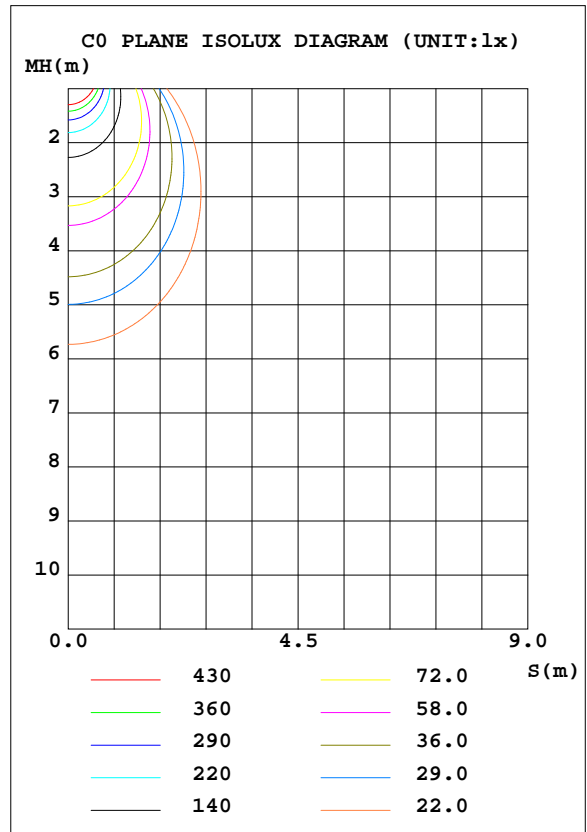
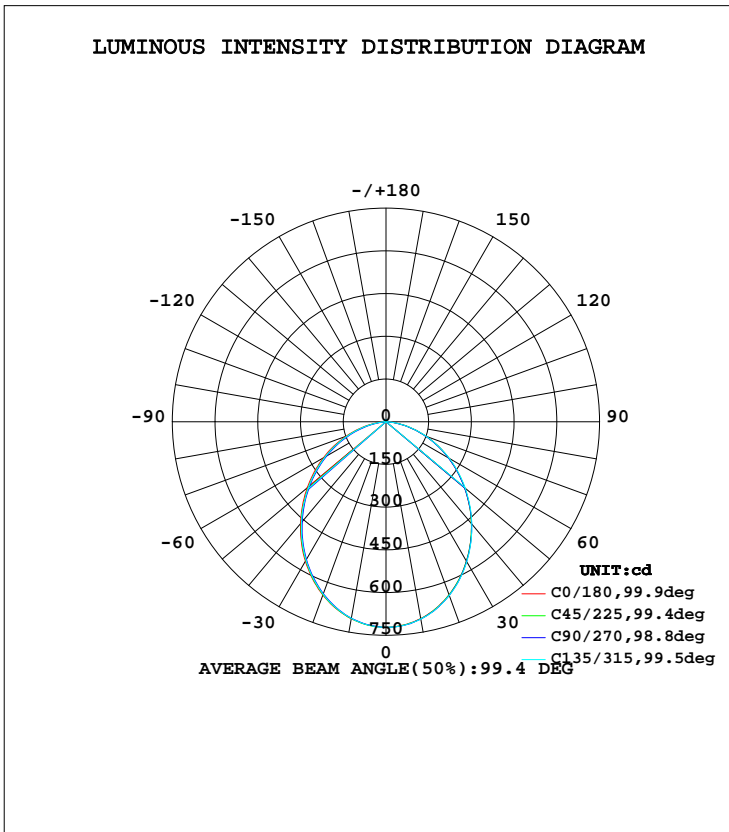


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:240.0V I:0.0760A P:17.50W PF:0.9570 Lamp Flux:1791.56x1 lm		
NAME: CP16W-CC	TYPE:16W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.0715	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 102.37 lm/W			
MODEL	CP16W-CC	I <sub>max</sub> (cd)	722.0	S/MH(C0/180)	1.17
NOMINAL POWER(W)	16	LOR(%)	100.0	S/MH(C90/270)	1.16
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	1791.6	η UP, DN(C0-180)	0.7, 48.9
NOMINAL FLUX(lm)	1791.56	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.6, 49.9
LAMPS INSIDE	1	η up(%)	1.2	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	240.0	η down(%)	98.8	CIBSE SHR MAX	1.35



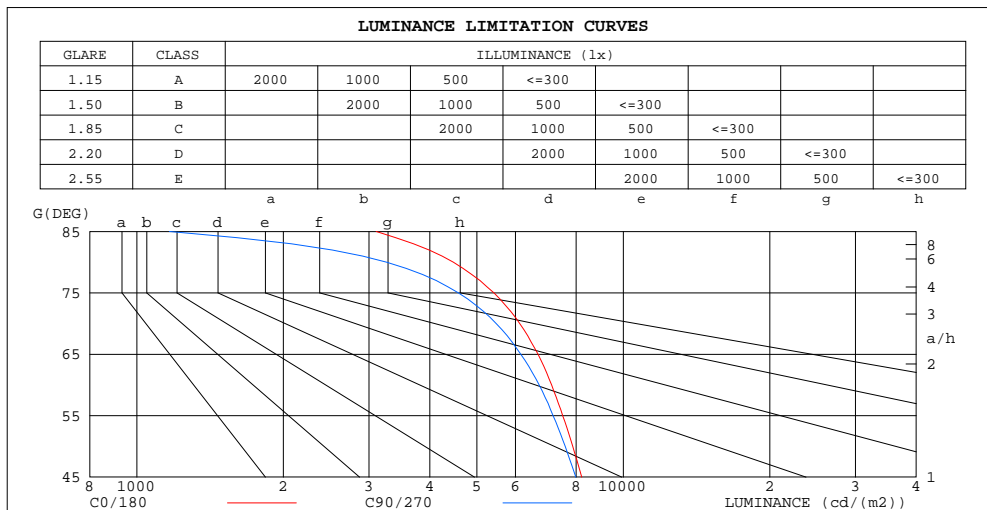
C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2021-08-07

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity:65.0%  
 Test Distance:10.237m [K=1.0000]  
 Remarks:

ZONAL FLUX DIAGRAM  
AND LUMINANCE LIMITATION CURVES

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	lum, lamp
10	702.5	702.0	700.6	701.0	701.8	702.3	703.8	703.5	0- 10	67.95	67.95	3.79,3.79
20	647.8	646.3	643.0	644.6	647.0	647.3	649.1	649.3	10- 20	191.1	259.0	14.5,14.5
30	566.0	562.9	558.4	561.3	564.9	565.1	566.2	567.7	20- 30	279.9	538.9	30.1,30.1
40	466.9	463.1	457.5	461.8	467.2	466.3	467.7	469.0	30- 40	322.5	861.5	48.1,48.1
50	361.2	354.9	349.3	353.5	360.1	361.1	360.0	363.3	40- 50	317.7	1179	65.8,65.8
60	254.2	247.1	240.1	245.9	253.9	254.5	252.8	256.1	50- 60	271.9	1451	81,81
70	149.6	142.7	134.1	141.5	150.1	149.5	147.9	150.7	60- 70	195.6	1647	91.9,91.9
80	55.47	49.60	40.50	48.24	55.60	55.02	51.93	55.39	70- 80	102.4	1749	97.6,97.6
90	0.8346	0.7673	0.7246	0.7754	0.7507	0.6470	0.6191	0.6834	80- 90	20.26	1769	98.8,98.8
100	1.509	1.520	1.517	1.544	1.328	1.263	1.176	1.215	90-100	1.128	1770	98.8,98.8
110	2.535	2.492	2.510	2.514	2.278	2.183	2.104	2.150	100-110	1.956	1772	98.9,98.9
120	3.601	3.586	3.592	3.591	3.266	3.133	2.971	3.108	110-120	2.826	1775	99.1,99.1
130	4.705	4.600	4.691	4.571	4.117	4.104	3.991	4.032	120-130	3.448	1779	99.3,99.3
140	5.617	5.534	5.397	5.527	5.135	4.942	4.989	4.960	130-140	3.725	1782	99.5,99.5
150	6.158	6.468	6.133	6.412	5.823	5.631	5.742	5.678	140-150	3.549	1786	99.7,99.7
160	7.176	7.093	7.373	7.032	6.482	6.334	6.409	6.334	150-160	2.974	1789	99.9,99.9
170	7.261	7.522	7.281	7.411	6.967	6.994	6.958	6.954	160-170	1.978	1791	100,100
180	7.472	7.677	7.563	7.637	7.486	7.670	7.570	7.637	170-180	0.6999	1792	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	3104	1166
80	4473	3260
75	5420	4582
70	6126	5480
65	6677	6155
60	7120	6712
55	7506	7173
50	7869	7595
45	8213	7986

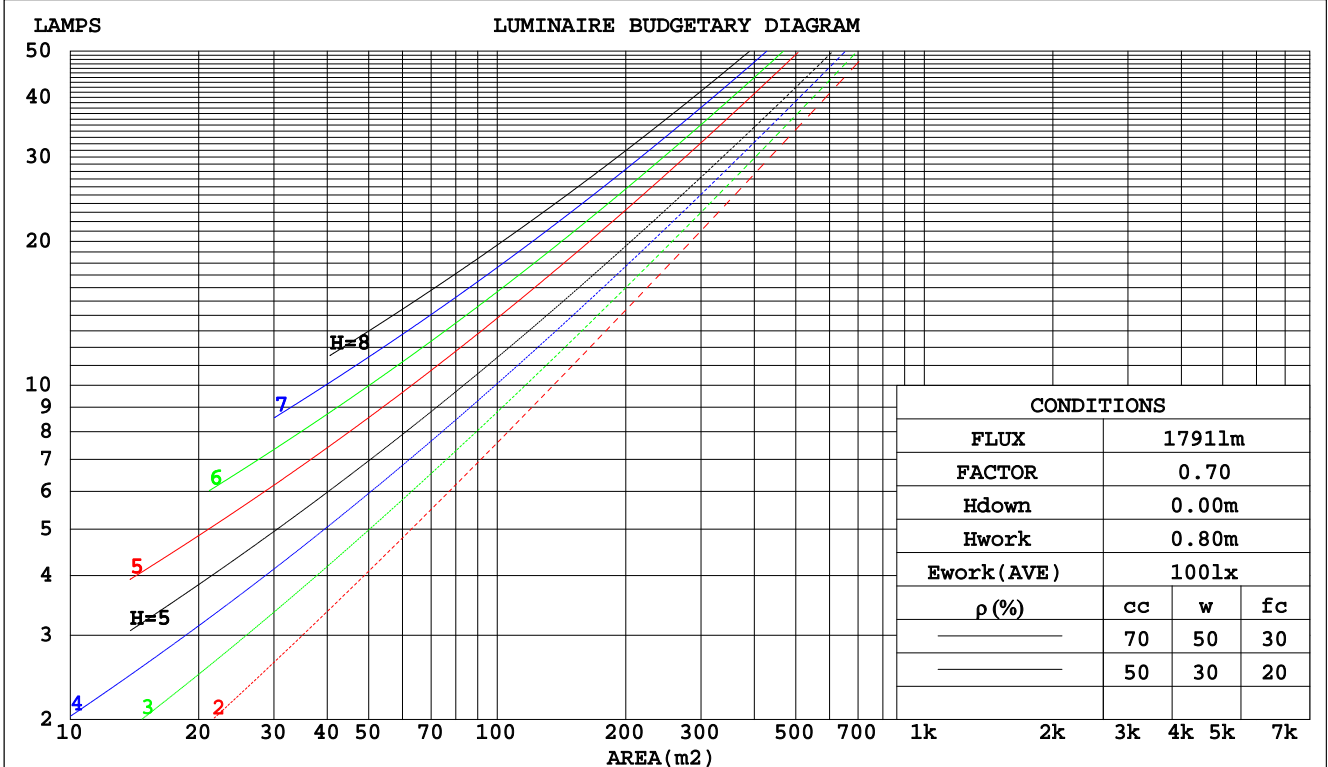
C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2021-08-07

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
Humidity:65.0%  
Test Distance:10.237m [K=1.0000]  
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:240.0V I:0.0760A P:17.50W PF:0.9570 Lamp Flux:1791.56x1 lm		
NAME: CP16W-CC	TYPE:16W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.0715	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						Coefficients of Utilization(CU)									
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.10	1.10	1.10	1.05	1.05	1.05	1.01	1.01	1.01	.99
1.0	1.05	1.01	.97	1.02	.99	.95	.98	.95	.92	.94	.91	.89	.90	.88	.86	.84
2.0	.92	.85	.80	.90	.84	.79	.86	.81	.77	.83	.78	.75	.79	.76	.73	.71
3.0	.81	.73	.67	.79	.72	.66	.76	.70	.65	.73	.68	.64	.71	.66	.62	.60
4.0	.72	.64	.57	.71	.63	.57	.68	.61	.56	.66	.60	.55	.63	.58	.54	.52
5.0	.65	.56	.49	.63	.55	.49	.61	.54	.49	.59	.53	.48	.57	.52	.47	.45
6.0	.58	.50	.43	.57	.49	.43	.55	.48	.43	.54	.47	.42	.52	.46	.42	.40
7.0	.53	.45	.39	.52	.44	.38	.51	.43	.38	.49	.42	.38	.48	.42	.37	.35
8.0	.49	.40	.35	.48	.40	.34	.46	.39	.34	.45	.39	.34	.44	.38	.34	.32
9.0	.45	.37	.31	.44	.36	.31	.43	.36	.31	.42	.35	.31	.41	.35	.30	.29
10.0	.41	.34	.28	.41	.33	.28	.40	.33	.28	.39	.32	.28	.38	.32	.28	.26



C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DAMIN  
 Test Date: 2021-08-07

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity: 65.0%  
 Test Distance: 10.237m [K=1.0000]  
 Remarks:

WEC AND CCEC

Test:U:240.0V I:0.0760A P:17.50W PF:0.9570 Lamp Flux:1791.56x1 lm		
NAME: CP16W-CC	TYPE:16W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.0715	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 Coefficients(WEC)									
0.0																
1.0	.290	.165	.052	.282	.161	.051	.268	.154	.049	.256	.147	.047	.244	.141	.046	
2.0	.276	.151	.046	.270	.148	.046	.257	.143	.044	.246	.138	.043	.236	.133	.042	
3.0	.257	.137	.041	.252	.135	.041	.241	.131	.040	.231	.127	.039	.222	.123	.038	
4.0	.239	.124	.037	.234	.122	.036	.224	.119	.036	.215	.116	.035	.207	.113	.034	
5.0	.222	.113	.033	.217	.112	.033	.209	.109	.032	.201	.106	.032	.193	.103	.031	
6.0	.207	.104	.030	.202	.102	.029	.195	.100	.029	.188	.098	.029	.181	.095	.028	
7.0	.193	.095	.027	.189	.094	.027	.182	.092	.027	.176	.090	.026	.170	.088	.026	
8.0	.180	.088	.025	.177	.087	.025	.171	.085	.024	.165	.084	.024	.160	.082	.024	
9.0	.170	.082	.023	.167	.081	.023	.161	.080	.023	.156	.078	.022	.151	.077	.022	
10.0	.160	.077	.021	.157	.076	.021	.152	.074	.021	.147	.073	.021	.143	.072	.021	

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	.200	.200	.200	.171	.171	.171	.117	.117	.117	.067	.067	.067	.021	.021	.021	
1.0	.188	.166	.146	.161	.142	.125	.110	.098	.087	.063	.057	.050	.020	.018	.016	
2.0	.180	.142	.110	.154	.122	.095	.106	.084	.066	.061	.049	.039	.020	.016	.013	
3.0	.172	.124	.086	.147	.107	.074	.101	.074	.052	.058	.043	.031	.019	.014	.010	
4.0	.164	.110	.070	.141	.095	.060	.097	.067	.043	.056	.039	.025	.018	.013	.008	
5.0	.157	.100	.058	.135	.087	.051	.093	.060	.036	.054	.035	.021	.017	.012	.007	
6.0	.150	.092	.050	.129	.079	.043	.089	.056	.031	.051	.033	.018	.017	.011	.006	
7.0	.143	.085	.044	.123	.073	.038	.085	.051	.027	.049	.030	.016	.016	.010	.005	
8.0	.137	.079	.039	.118	.068	.034	.081	.048	.024	.047	.028	.014	.015	.009	.005	
9.0	.131	.074	.036	.113	.064	.031	.078	.045	.022	.045	.027	.013	.015	.009	.004	
10.0	.125	.070	.033	.108	.060	.029	.075	.043	.020	.044	.025	.012	.014	.008	.004	

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2021-08-07

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity:65.0%  
 Test Distance:10.237m [K=1.0000]  
 Remarks:

Uncorrected UGR Table

Test:U:240.0V I:0.0760A P:17.50W PF:0.9570 Lamp Flux:1791.56x1 lm										
NAME: CP16W-CC					TYPE:16W			WEIGHT:		
DIM.:					SPEC.:3000K			SERIAL No.:1		
MFR.:					SUR.:0.0715			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	19.6	21.1	19.9	21.3	21.5	19.4	20.9	19.7	21.1	21.3
3H	21.0	22.3	21.3	22.5	22.8	20.6	22.0	21.0	22.2	22.5
4H	21.4	22.7	21.8	23.0	23.3	21.1	22.3	21.4	22.6	22.9
6H	21.8	22.9	22.1	23.2	23.5	21.3	22.5	21.6	22.7	23.0
8H	21.8	23.0	22.2	23.3	23.6	21.3	22.4	21.6	22.7	23.0
12H	21.8	23.0	22.2	23.3	23.6	21.2	22.3	21.6	22.7	23.0
4H 2H	20.1	21.4	20.5	21.7	22.0	20.0	21.3	20.3	21.5	21.8
3H	21.6	22.7	22.0	23.1	23.4	21.4	22.5	21.7	22.8	23.1
4H	22.2	23.2	22.6	23.6	23.9	21.9	22.9	22.3	23.2	23.6
6H	22.7	23.5	23.1	23.9	24.3	22.2	23.1	22.6	23.4	23.8
8H	22.8	23.6	23.2	24.0	24.4	22.2	23.1	22.7	23.4	23.9
12H	22.8	23.6	23.3	24.0	24.4	22.2	23.0	22.7	23.4	23.8
8H 4H	22.4	23.2	22.8	23.6	24.0	22.1	22.9	22.5	23.3	23.7
6H	22.9	23.6	23.4	24.0	24.5	22.5	23.2	23.0	23.6	24.1
8H	23.1	23.7	23.6	24.2	24.6	22.6	23.2	23.1	23.6	24.1
12H	23.2	23.7	23.7	24.2	24.7	22.6	23.1	23.1	23.6	24.1
12H 4H	22.4	23.2	22.8	23.6	24.0	22.1	22.9	22.5	23.3	23.7
6H	22.9	23.6	23.4	24.0	24.5	22.5	23.1	23.0	23.6	24.0
8H	23.1	23.7	23.6	24.1	24.6	22.6	23.1	23.1	23.6	24.1
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.3				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.3 / - 0.3					+ 0.3 / - 0.4				

CIE Pub.117 Corrected 1792 lm Total Lamp Luminous Flux.(8log(F/F0) = 2.0)

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2021-08-07

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity:65.0%  
 Test Distance:10.237m [K=1.0000]  
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:240.0V I:0.0760A P:17.50W PF:0.9570 Lamp Flux:1791.56x1 lm		
NAME: CP16W-CC	TYPE:16W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.0715	PROTECTION ANGLE:

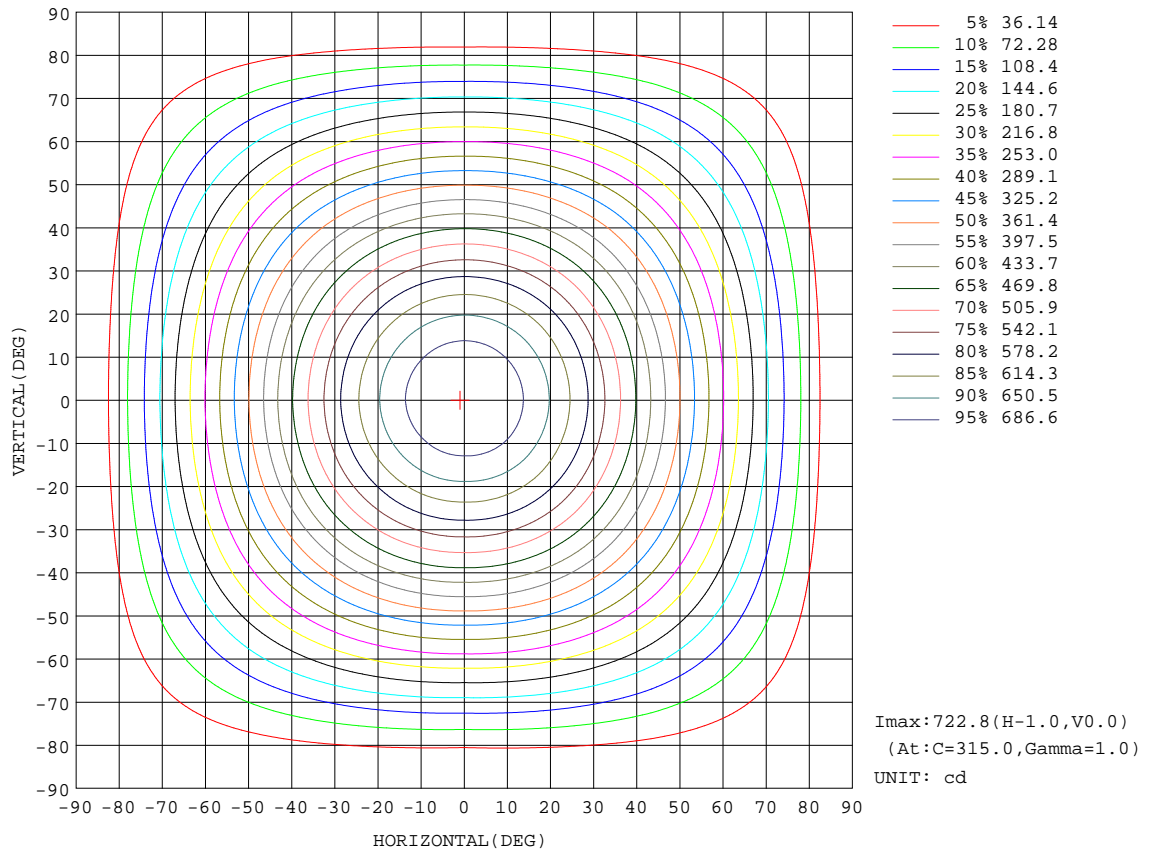
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	59	48	42	59	48	41	57	47	41	35
0.80	69	58	51	68	58	51	67	57	51	44
1.00	78	67	60	77	67	60	74	68	59	52
1.25	85	75	68	83	74	67	80	72	67	59
1.50	90	80	74	88	79	73	85	77	72	64
2.00	96	88	82	94	87	81	91	84	80	72
2.50	100	93	87	98	91	86	94	88	84	76
3.00	103	97	91	101	95	90	97	92	88	79
4.00	107	102	97	104	100	96	100	96	93	84
5.00	109	105	101	107	103	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: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2021-08-07

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity:65.0%  
 Test Distance:10.237m [K=1.0000]  
 Remarks:

**ISOCANDELA DIAGRAM**

Test:U:240.0V I:0.0760A P:17.50W PF:0.9570 Lamp Flux:1791.56x1 lm		
NAME: CP16W-CC	TYPE:16W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.0715	PROTECTION ANGLE:

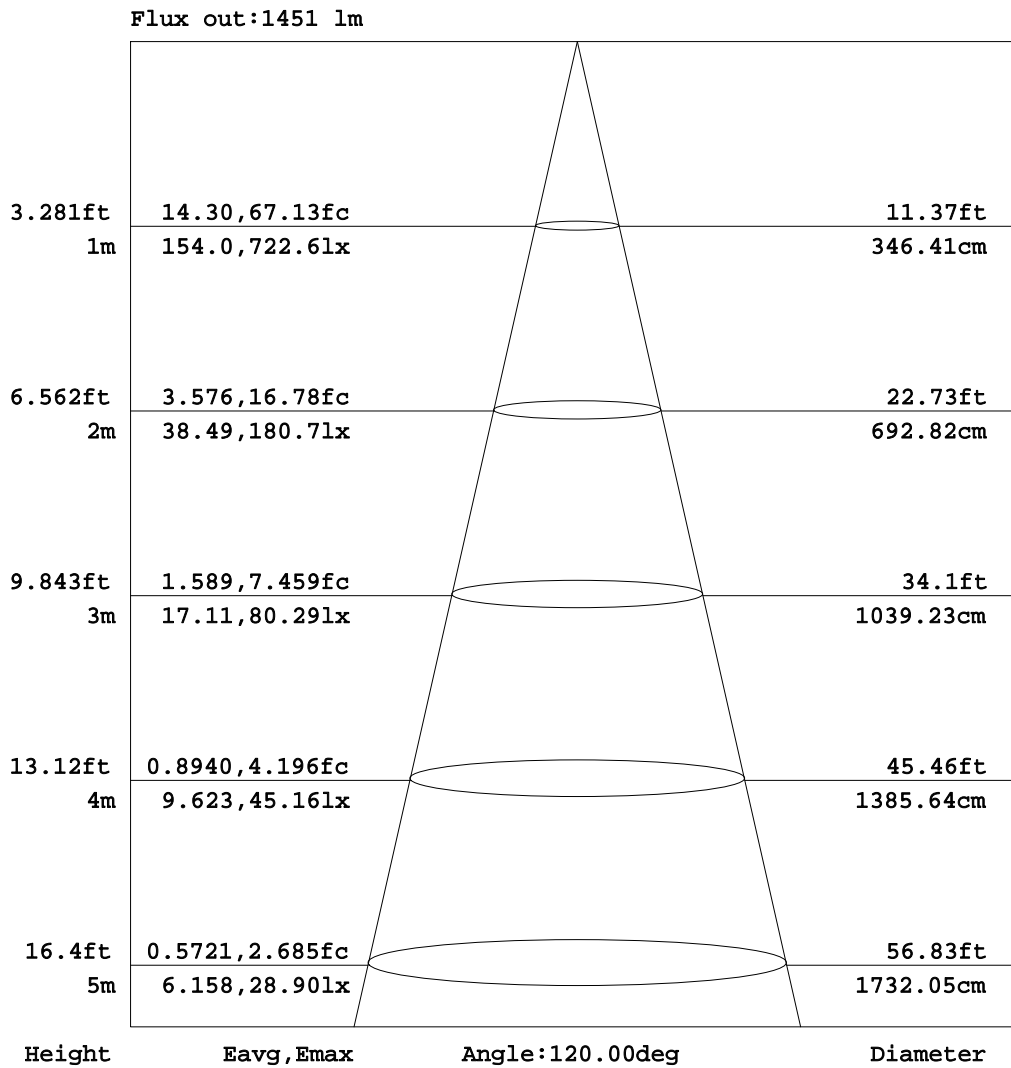


C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2021-08-07

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity:65.0%  
 Test Distance:10.237m [K=1.0000]  
 Remarks:

AAI Figure

Test:U:240.0V I:0.0760A P:17.50W PF:0.9570 Lamp Flux:1791.56x1 lm		
NAME: CP16W-CC	TYPE:16W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.0715	PROTECTION ANGLE:



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

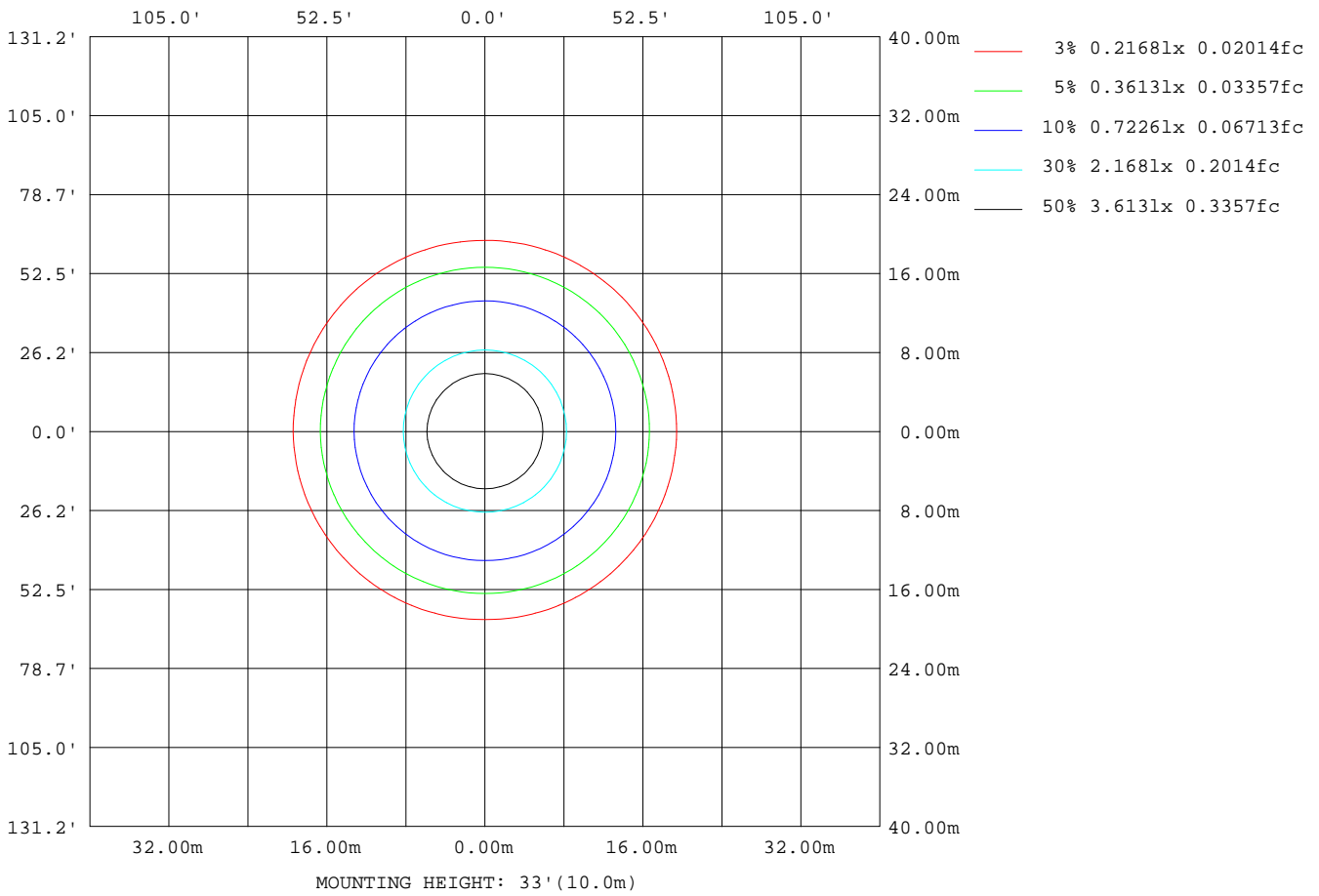
C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2021-08-07

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity:65.0%  
 Test Distance:10.237m [K=1.0000]  
 Remarks:



**ISOLUX DIAGRAM**

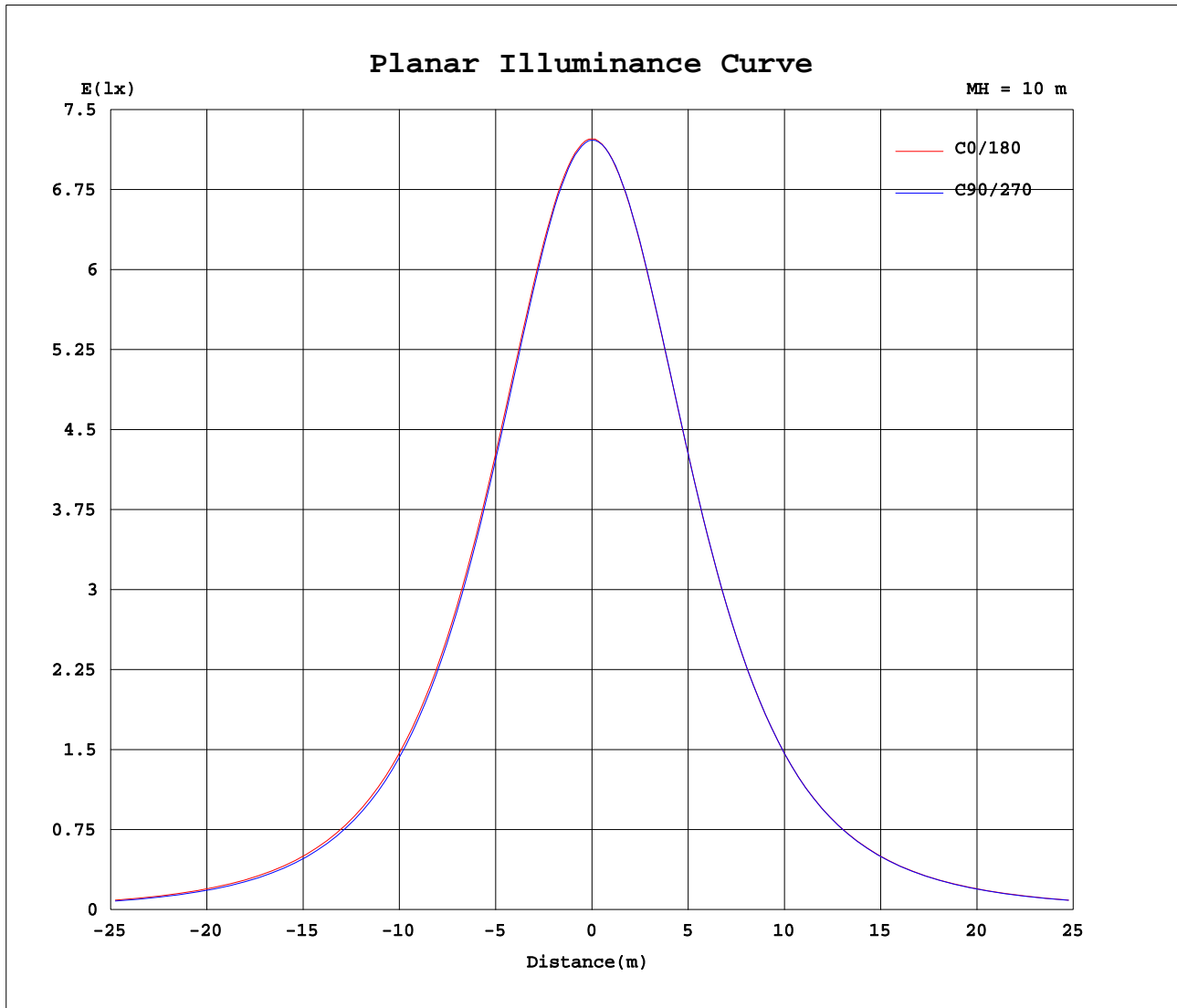
Test:U:240.0V I:0.0760A P:17.50W PF:0.9570 Lamp Flux:1791.56x1 lm		
NAME: CP16W-CC	TYPE:16W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.0715	PROTECTION ANGLE:



C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2021-08-07

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity:65.0%  
 Test Distance:10.237m [K=1.0000]  
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DAMIN  
 Test Date: 2021-08-07

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity: 65.0%  
 Test Distance: 10.237m [K=1.0000]  
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:240.0V I:0.0760A P:17.50W PF:0.9570 Lamp Flux:1791.56x1 lm		
NAME: CP16W-CC	TYPE:16W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.0715	PROTECTION ANGLE:

Table--1

UNIT: cd

C(DEG)\ γ (DEG)	0	45	90	135	180	225	270	315											
0	722	722	722	722	722	722	722	722											
5	717	717	716	716	717	717	718	717											
10	702	702	701	701	702	702	704	704											
15	679	678	676	677	679	679	681	681											
20	648	646	643	645	647	647	649	649											
25	610	608	603	606	609	609	610	611											
30	566	563	558	561	565	565	566	568											
35	518	515	510	513	517	517	518	519											
40	467	463	457	462	467	466	468	469											
45	415	409	404	408	414	414	414	417											
50	361	355	349	354	360	361	360	363											
55	307	301	294	300	307	308	306	310											
60	254	247	240	246	254	254	253	256											
65	201	194	186	193	202	202	200	203											
70	150	143	134	142	150	149	148	151											
75	100	93.8	84.8	92.6	100	100	97.9	101											
80	55.5	49.6	40.5	48.2	55.6	55.0	51.9	55.4											
85	19.3	13.1	7.27	12.2	19.5	16.5	13.8	16.6											
90	0.83	0.77	0.72	0.78	0.75	0.65	0.62	0.68											
95	1.07	1.11	1.08	1.14	0.96	0.88	0.86	0.89											
100	1.51	1.52	1.52	1.54	1.33	1.26	1.18	1.21											
105	2.00	1.98	2.00	2.01	1.78	1.71	1.62	1.66											
110	2.54	2.49	2.51	2.51	2.28	2.18	2.10	2.15											
115	3.06	3.05	3.05	3.05	2.78	2.66	2.63	2.64											
120	3.60	3.59	3.59	3.59	3.27	3.13	2.97	3.11											
125	4.17	4.10	4.13	4.09	3.63	3.61	3.48	3.60											
130	4.70	4.60	4.69	4.57	4.12	4.10	3.99	4.03											
135	5.24	5.06	5.18	5.05	4.59	4.50	4.45	4.48											
140	5.62	5.53	5.40	5.53	5.13	4.94	4.99	4.96											
145	6.02	6.01	5.69	5.98	5.55	5.41	5.49	5.36											
150	6.16	6.47	6.13	6.41	5.82	5.63	5.74	5.68											
155	6.70	6.77	7.00	6.71	6.34	6.11	6.23	6.10											
160	7.18	7.09	7.37	7.03	6.48	6.33	6.41	6.33											
165	7.43	7.33	7.63	7.25	6.70	6.61	6.66	6.62											
170	7.26	7.52	7.28	7.41	6.97	6.99	6.96	6.95											
175	7.44	7.68	7.39	7.55	7.23	7.28	7.21	7.21											
180	7.47	7.68	7.56	7.64	7.49	7.67	7.57	7.64											

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2021-08-07

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity:65.0%  
 Test Distance:10.237m [K=1.0000]  
 Remarks: