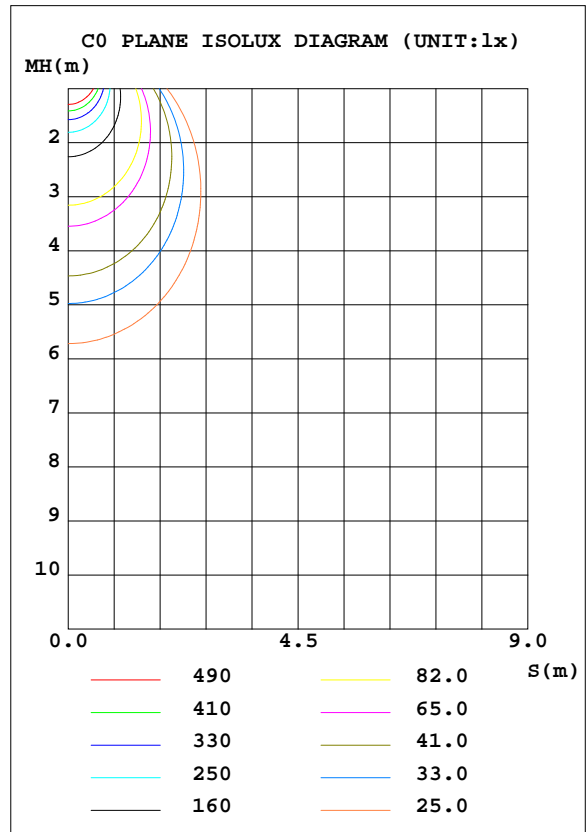
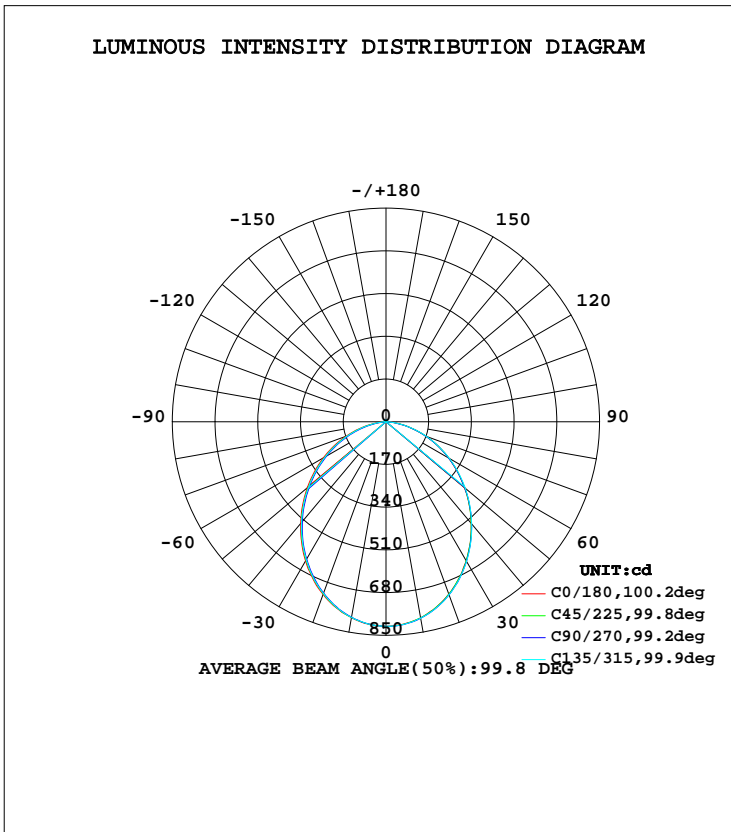


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:240.0V I:0.0730A P:16.80W PF:0.9520 Lamp Flux:2028.04x1 lm		
NAME: CP16W-CC	TYPE:16W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.0715	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 120.72 lm/W			
MODEL	CP16W-CC	I _{max} (cd)	814.3	S/MH(C0/180)	1.18
NOMINAL POWER(W)	16	LOR(%)	100.0	S/MH(C90/270)	1.16
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	2028.0	η UP, DN(C0-180)	0.7, 48.9
NOMINAL FLUX(lm)	2028.04	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)	240.1	η down(%)	98.8	CIBSE SHR MAX	1.35



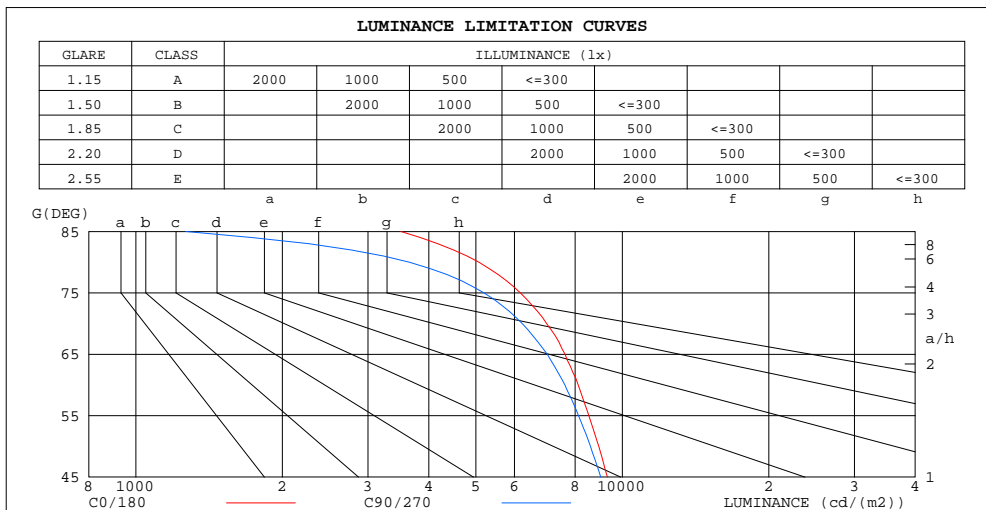
C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2021-08-07

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	Φ lum,lamp
10	791.5	791.1	789.9	790.6	792.7	792.2	793.8	794.1	0- 10	76.65	76.65	3.78,3.78
20	731.6	729.5	725.7	727.6	730.3	730.9	733.3	732.9	10- 20	215.7	292.3	14.4,14.4
30	640.5	636.1	631.3	634.9	639.9	638.0	641.2	641.4	20- 30	316.2	608.5	30,30
40	528.3	523.8	517.6	522.2	527.4	527.1	529.8	530.8	30- 40	364.8	973.3	48,48
50	409.5	402.3	396.1	401.3	407.2	409.0	409.1	411.8	40- 50	359.9	1333	65.7,65.7
60	288.8	279.9	272.9	279.2	287.3	288.8	287.4	290.8	50- 60	308.3	1642	80.9,80.9
70	170.2	162.1	152.6	160.7	170.2	169.8	168.6	171.1	60- 70	222.3	1864	91.9,91.9
80	62.74	56.07	45.39	54.60	62.69	62.18	58.69	62.69	70- 80	116.3	1980	97.6,97.6
90	0.9672	0.8580	0.8177	0.8565	0.8266	0.7725	0.7117	0.7639	80- 90	22.69	2003	98.8,98.8
100	1.741	1.727	1.730	1.731	1.506	1.425	1.348	1.418	90-100	1.288	2004	98.8,98.8
110	2.864	2.850	2.852	2.883	2.580	2.481	2.411	2.453	100-110	2.234	2006	98.9,98.9
120	4.089	4.058	4.083	4.084	3.705	3.548	3.390	3.536	110-120	3.214	2010	99.1,99.1
130	5.306	5.215	5.310	5.193	4.658	4.637	4.520	4.579	120-130	3.909	2013	99.3,99.3
140	6.330	6.275	6.124	6.272	5.808	5.563	5.676	5.632	130-140	4.223	2018	99.5,99.5
150	6.954	7.285	6.980	7.279	6.597	6.420	6.525	6.445	140-150	4.021	2022	99.7,99.7
160	8.108	8.015	8.342	7.964	7.318	7.150	7.265	7.157	150-160	3.364	2025	99.9,99.9
170	8.200	8.492	8.244	8.402	7.879	7.894	7.878	7.857	160-170	2.236	2027	100,100
180	8.424	8.674	8.547	8.641	8.438	8.688	8.561	8.634	170-180	0.7910	2028	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	3503	1266
80	5074	3648
75	6173	5195
70	6990	6227
65	7626	7009
60	8112	7617
55	8535	8128
50	8946	8601
45	9318	9028

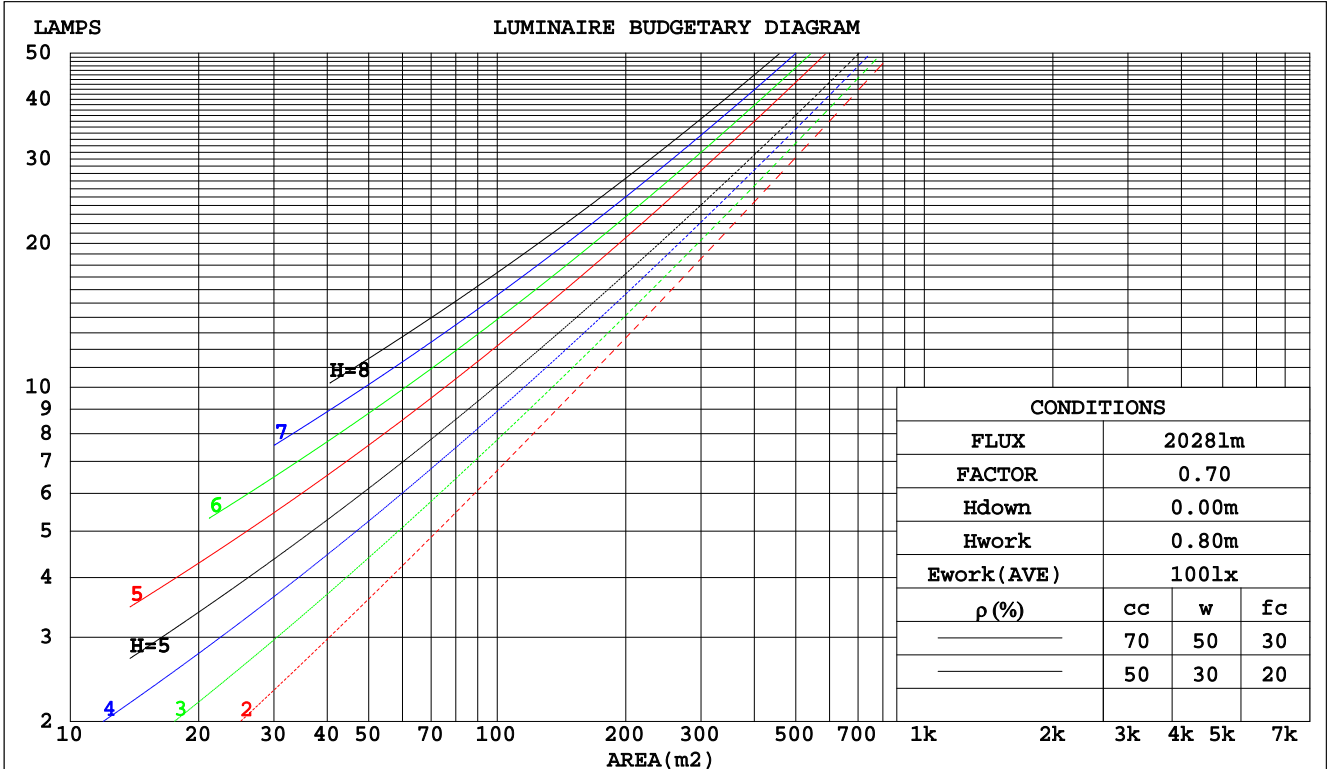
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2021-08-07

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:0.0730A P:16.80W PF:0.9520 Lamp Flux:2028.04x1 lm		
NAME: CP16W-CC	TYPE:16W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.0715	PROTECTION ANGLE:

pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pw																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	.48	.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	.44	.38	.52	.44	.38	.51	.43	.38	.49	.42	.38	.48	.42	.37	.35
8.0	.48	.40	.34	.48	.40	.34	.46	.39	.34	.45	.39	.34	.44	.38	.33	.32
9.0	.45	.37	.31	.44	.36	.31	.43	.36	.31	.42	.35	.31	.40	.35	.30	.29
10.0	.41	.33	.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:0.0730A P:16.80W PF:0.9520 Lamp Flux:2028.04x1 lm		
NAME: CP16W-CC	TYPE:16W	WEIGHT:
DIM.:	SPEC.:4000K	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	.269	.154	.049	.256	.148	.047	.244	.141	.046	
2.0	.276	.151	.046	.270	.149	.046	.258	.143	.044	.246	.138	.043	.236	.133	.042	
3.0	.258	.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	.216	.116	.035	.207	.113	.034	
5.0	.222	.113	.033	.218	.112	.033	.209	.109	.032	.201	.106	.032	.194	.103	.031	
6.0	.207	.104	.030	.203	.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	.181	.088	.025	.177	.087	.025	.171	.086	.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	.075	.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	.061	.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:0.0730A P:16.80W PF:0.9520 Lamp Flux:2028.04x1 lm										
NAME: CP16W-CC					TYPE:16W			WEIGHT:		
DIM.:					SPEC.:4000K			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	20.1	21.5	20.4	21.8	22.0	19.9	21.3	20.2	21.5	21.8
3H	21.4	22.8	21.7	23.0	23.3	21.1	22.4	21.4	22.7	22.9
4H	21.9	23.2	22.2	23.5	23.7	21.5	22.8	21.8	23.0	23.3
6H	22.2	23.4	22.6	23.7	24.0	21.7	22.9	22.0	23.2	23.5
8H	22.3	23.4	22.7	23.7	24.1	21.7	22.9	22.1	23.2	23.5
12H	22.3	23.4	22.7	23.7	24.1	21.7	22.8	22.0	23.1	23.4
4H 2H	20.6	21.9	20.9	22.1	22.4	20.4	21.7	20.8	22.0	22.2
3H	22.1	23.2	22.5	23.5	23.9	21.8	22.9	22.2	23.2	23.6
4H	22.7	23.7	23.1	24.1	24.4	22.3	23.4	22.7	23.7	24.0
6H	23.1	24.0	23.5	24.4	24.8	22.6	23.5	23.0	23.9	24.3
8H	23.2	24.1	23.7	24.4	24.9	22.7	23.5	23.1	23.9	24.3
12H	23.3	24.0	23.7	24.4	24.9	22.6	23.4	23.1	23.8	24.2
8H 4H	22.9	23.7	23.3	24.1	24.5	22.5	23.4	23.0	23.8	24.2
6H	23.4	24.1	23.9	24.5	25.0	22.9	23.6	23.4	24.1	24.5
8H	23.6	24.2	24.0	24.6	25.1	23.0	23.6	23.5	24.1	24.5
12H	23.6	24.2	24.1	24.6	25.1	23.0	23.5	23.5	24.0	24.5
12H 4H	22.9	23.6	23.3	24.0	24.5	22.5	23.3	23.0	23.7	24.1
6H	23.4	24.0	23.9	24.5	24.9	23.0	23.6	23.4	24.0	24.5
8H	23.6	24.1	24.1	24.6	25.1	23.1	23.6	23.6	24.0	24.6
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.3				
1.5H	+ 0.1 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.3 / - 0.3					+ 0.3 / - 0.4				

CIE Pub.117 Corrected 2028 lm Total Lamp Luminous Flux.(8log(F/F0) = 2.5)

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:0.0730A P:16.80W PF:0.9520 Lamp Flux:2028.04x1 lm		
NAME: CP16W-CC	TYPE:16W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.0715	PROTECTION ANGLE:

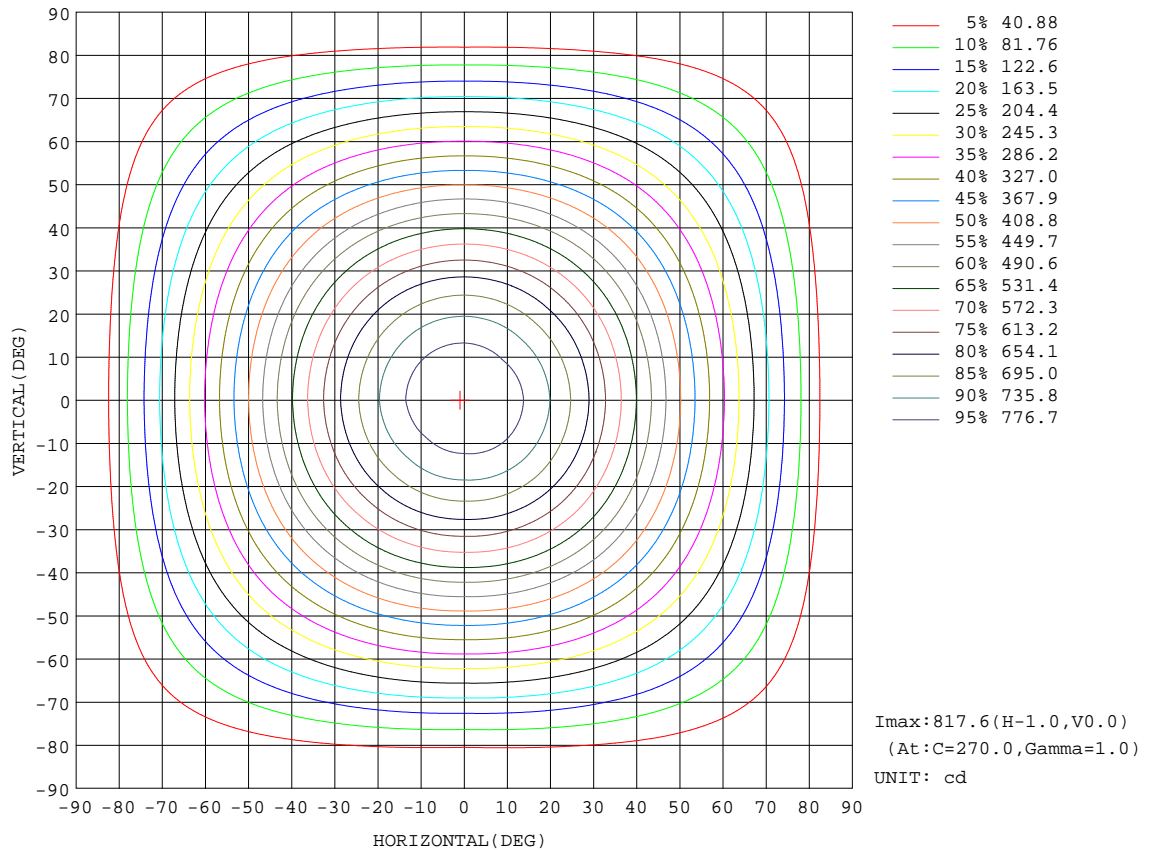
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	59	48	41	59	48	41	57	47	41	35
0.80	69	58	51	68	58	51	67	57	51	44
1.00	78	67	60	76	66	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	79	72
2.50	100	92	87	98	91	86	94	88	84	75
3.00	103	97	91	101	95	90	97	92	88	79
4.00	107	101	97	104	100	96	100	96	93	84
5.00	109	105	101	107	103	99	102	99	96	86
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

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:

ISOCANDELA DIAGRAM

Test:U:240.0V I:0.0730A P:16.80W PF:0.9520 Lamp Flux:2028.04x1 lm		
NAME: CP16W-CC	TYPE:16W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.0715	PROTECTION ANGLE:

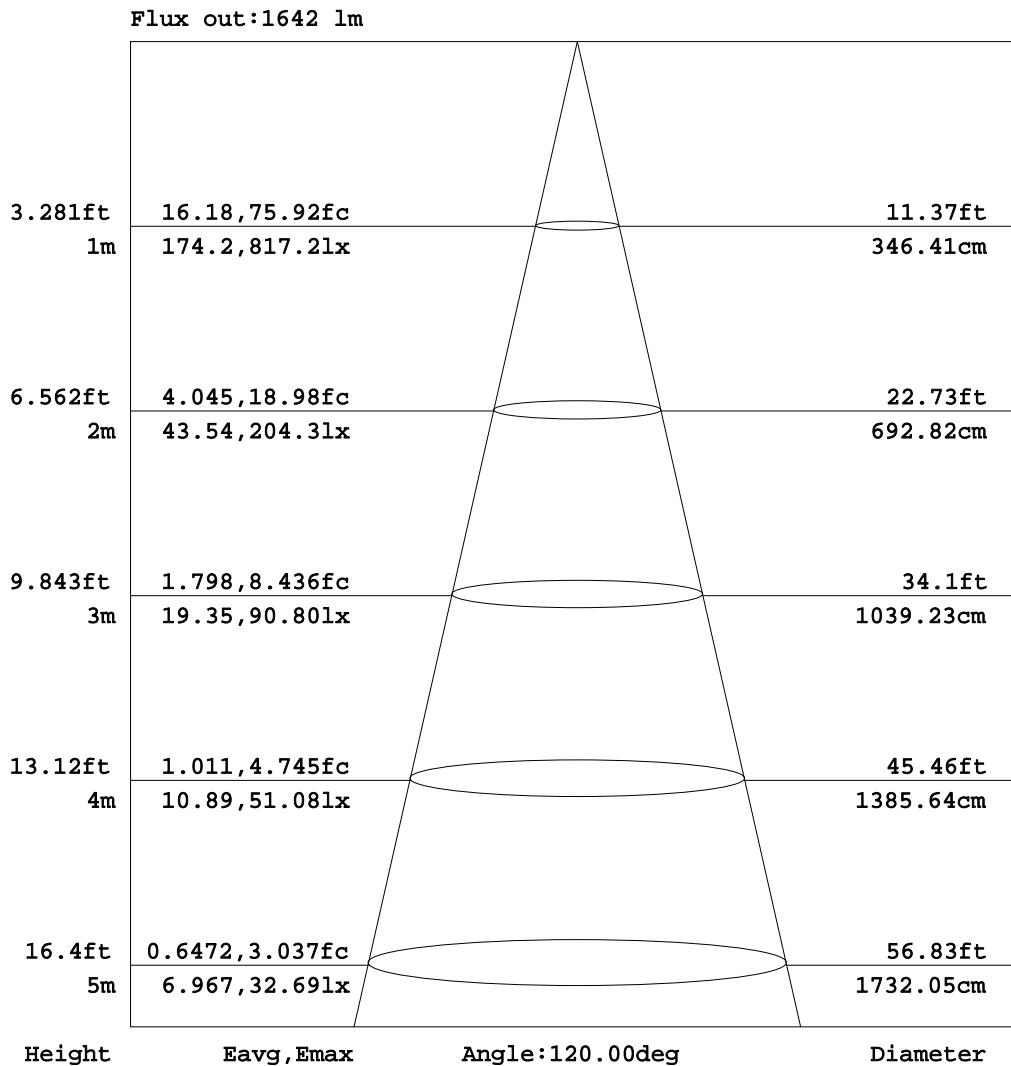


C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2021-08-07

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:0.0730A P:16.80W PF:0.9520 Lamp Flux:2028.04x1 lm		
NAME: CP16W-CC	TYPE:16W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.0715	PROTECTION ANGLE:



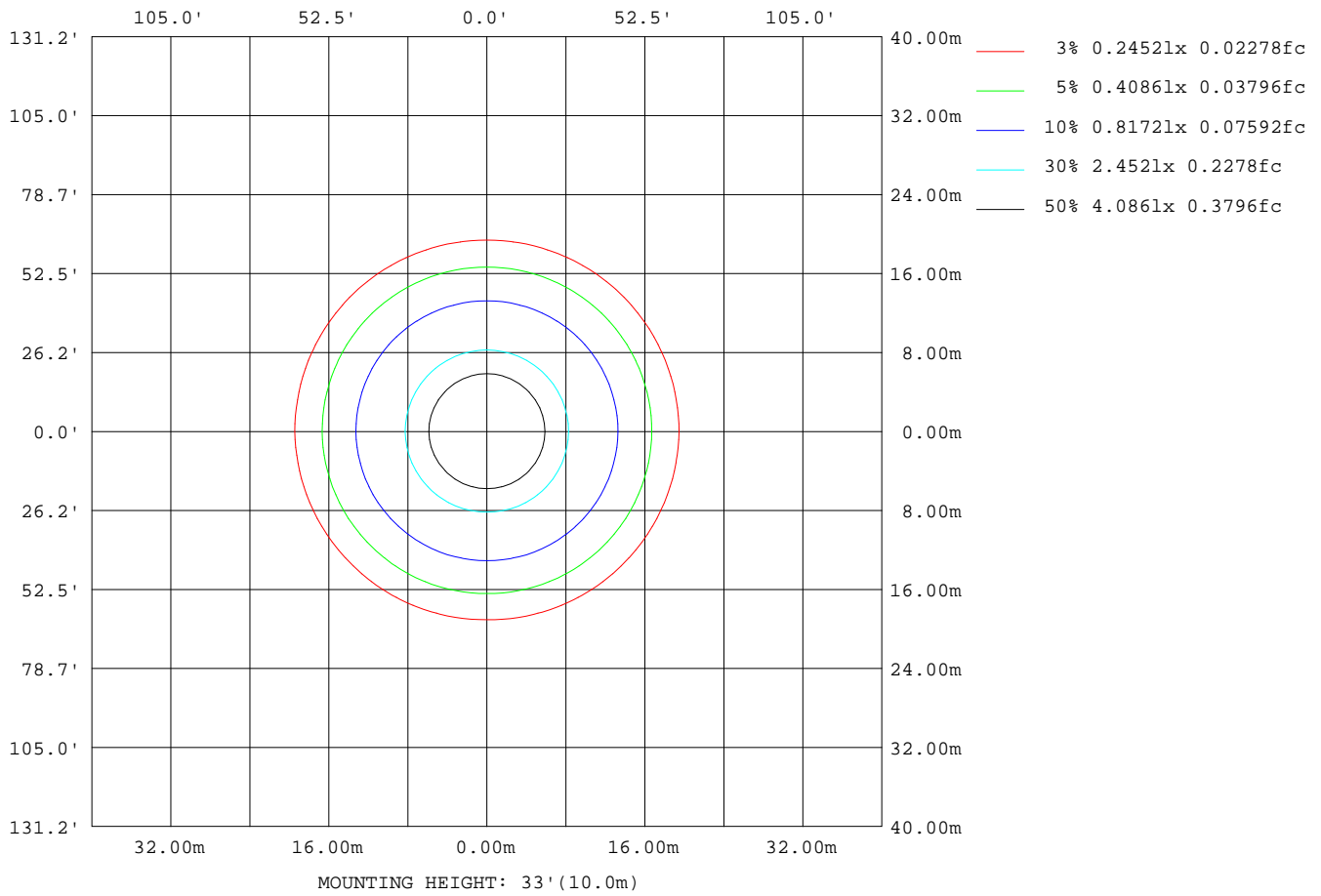
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

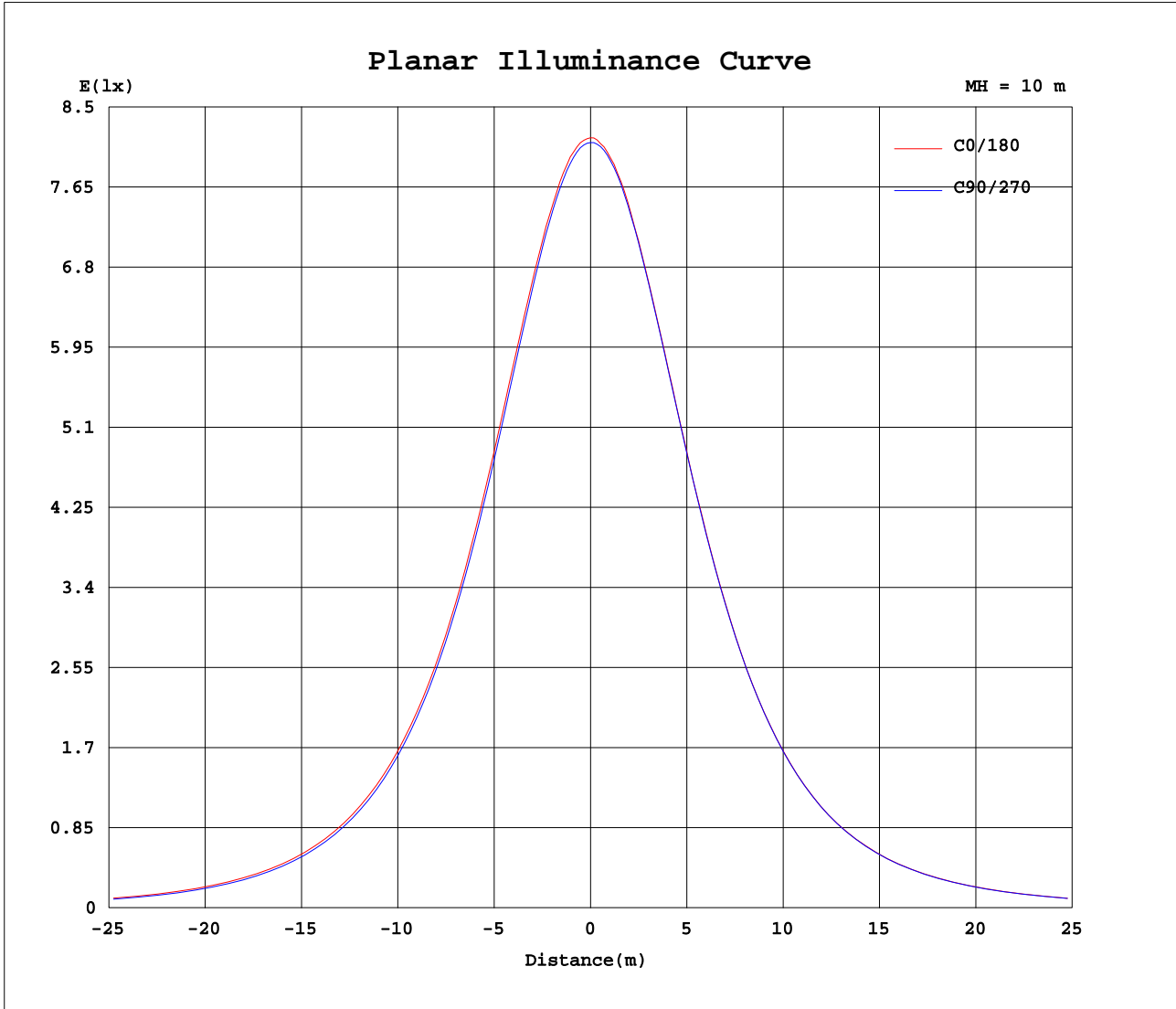
Test:U:240.0V I:0.0730A P:16.80W PF:0.9520 Lamp Flux:2028.04x1 lm		
NAME: CP16W-CC	TYPE:16W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.0715	PROTECTION ANGLE:



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:

Planar Illuminance Curve



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:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:240.0V I:0.0730A P:16.80W PF:0.9520 Lamp Flux:2028.04x1 lm		
NAME: CP16W-CC	TYPE:16W	WEIGHT:
DIM.:	SPEC.:4000K	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	814	814	814	814	814	814	814	814											
5	808	808	808	808	808	809	810	809											
10	792	791	790	791	793	792	794	794											
15	766	765	762	764	765	766	768	768											
20	732	729	726	728	730	731	733	733											
25	689	686	681	685	687	688	690	690											
30	640	636	631	635	640	638	641	641											
35	586	582	577	580	585	585	587	588											
40	528	524	518	522	527	527	530	531											
45	469	464	457	463	469	469	471	472											
50	409	402	396	401	407	409	409	412											
55	349	341	334	340	348	349	348	351											
60	289	280	273	279	287	289	287	291											
65	229	220	212	219	229	229	227	231											
70	170	162	153	161	170	170	169	171											
75	114	107	96.3	105	114	114	112	115											
80	62.7	56.1	45.4	54.6	62.7	62.2	58.7	62.7											
85	21.7	14.3	7.90	13.4	21.8	18.1	15.2	18.4											
90	0.97	0.86	0.82	0.86	0.83	0.77	0.71	0.76											
95	1.27	1.25	1.24	1.26	1.07	1.00	1.02	1.02											
100	1.74	1.73	1.73	1.73	1.51	1.42	1.35	1.42											
105	2.28	2.28	2.30	2.30	2.02	1.95	1.85	1.92											
110	2.86	2.85	2.85	2.88	2.58	2.48	2.41	2.45											
115	3.46	3.44	3.47	3.46	3.18	3.01	3.00	3.00											
120	4.09	4.06	4.08	4.08	3.71	3.55	3.39	3.54											
125	4.72	4.64	4.70	4.65	4.10	4.10	3.95	4.09											
130	5.31	5.22	5.31	5.19	4.66	4.64	4.52	4.58											
135	5.89	5.77	5.88	5.73	5.19	5.11	5.06	5.10											
140	6.33	6.28	6.12	6.27	5.81	5.56	5.68	5.63											
145	6.80	6.80	6.46	6.78	6.27	6.11	6.23	6.09											
150	6.95	7.28	6.98	7.28	6.60	6.42	6.52	6.44											
155	7.55	7.65	7.91	7.62	7.14	6.89	7.06	6.89											
160	8.11	8.01	8.34	7.96	7.32	7.15	7.27	7.16											
165	8.38	8.27	8.63	8.22	7.57	7.48	7.53	7.50											
170	8.20	8.49	8.24	8.40	7.88	7.89	7.88	7.86											
175	8.41	8.65	8.34	8.54	8.14	8.22	8.14	8.15											
180	8.42	8.67	8.55	8.64	8.44	8.69	8.56	8.63											

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: