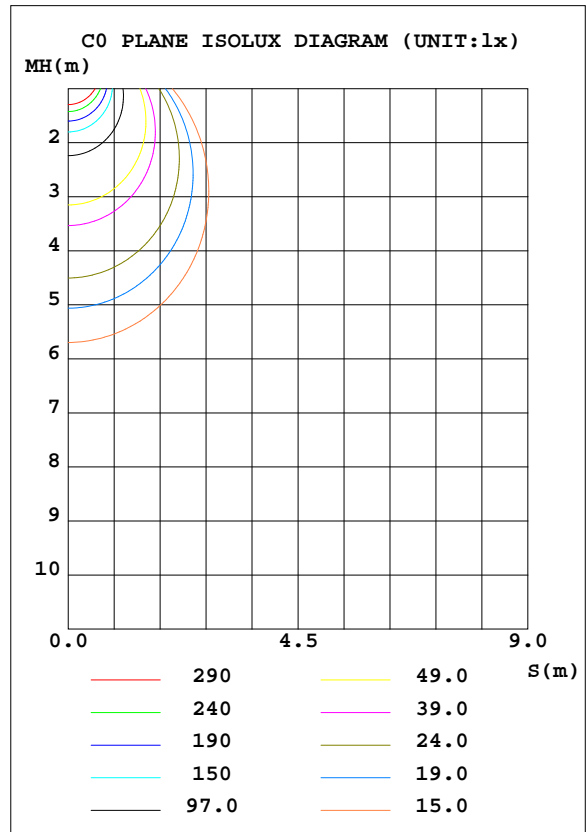
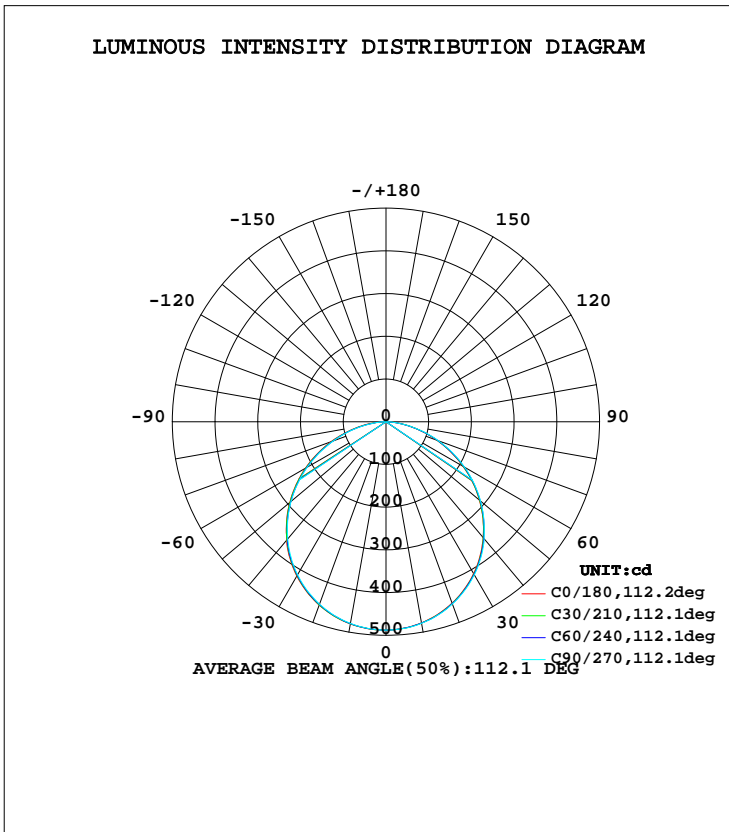


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:230.1V I:0.0610A P:13.40W PF:0.9530 Lamp Flux:1389.71x1 lm		
NAME: CP10-16W-CC	TYPE:13W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:1
MFR.:	SUR.:0.0232	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 103.71 lm/W			
MODEL	CP10-16W-CC	I _{max} (cd)	487.8	S/MH(C0/180)	1.25
NOMINAL POWER(W)	13	LOR(%)	100.0	S/MH(C90/270)	1.26
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	1389.7	η UP, DN(C0-180)	0.0, 49.8
NOMINAL FLUX(lm)	1389.71	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)	230.1	η down(%)	100.0	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-06-22

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	Φ lum,lamp
10	478.1	478.6	479.1	479.8	480.5	480.0	479.4	478.8	0- 10	46.15	46.15	3.32,3.32
20	451.9	453.0	454.4	455.4	456.9	456.0	454.7	453.4	10- 20	132.4	178.5	12.8,12.8
30	410.3	411.8	413.6	415.2	417.3	415.7	413.8	412.2	20- 30	200.9	379.4	27.3,27.3
40	353.9	355.2	357.5	359.7	361.7	360.1	358.0	356.0	30- 40	242.5	621.9	44.7,44.7
50	285.5	287.1	289.0	292.0	294.3	292.1	290.1	287.8	40- 50	250.6	872.5	62.8,62.8
60	208.4	210.0	212.2	215.4	217.9	215.2	212.9	210.9	50- 60	225.3	1098	79,79
70	126.8	128.5	131.0	133.9	136.9	133.5	130.8	129.6	60- 70	170.3	1268	91.2,91.2
80	50.88	50.95	52.20	55.79	59.42	55.79	52.76	52.50	70- 80	96.81	1365	98.2,98.2
90	0.4855	0.4790	0.4604	0.4632	0.8451	0.6256	0.6219	0.6485	80- 90	24.85	1390	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		

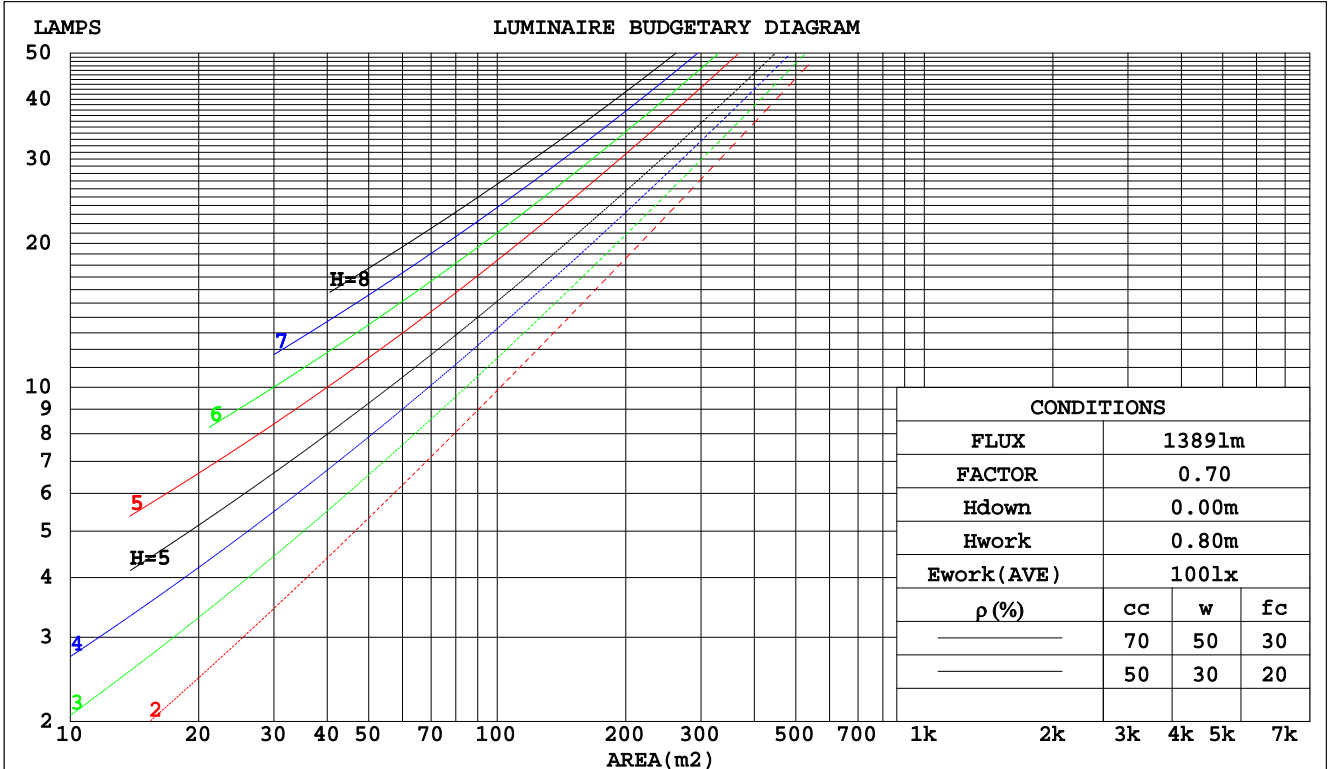
C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-06-22

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:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.1V I:0.0610A P:13.40W PF:0.9530 Lamp Flux:1389.7lx1 lm		
NAME: CP10-16W-CC	TYPE:13W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:1
MFR.:	SUR.:0.0232	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																
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	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1.0	1.04	.00	.96	1.02	.98	.94	.97	.94	.91	.93	.91	.88	.90	.88	.86	.84
2.0	.91	.84	.78	.89	.82	.77	.85	.80	.75	.82	.77	.73	.79	.75	.72	.70
3.0	.79	.71	.65	.78	.70	.64	.75	.68	.63	.72	.67	.62	.70	.65	.61	.59
4.0	.70	.62	.55	.69	.61	.54	.66	.59	.54	.64	.58	.53	.62	.57	.52	.50
5.0	.63	.54	.47	.62	.53	.47	.60	.52	.46	.58	.51	.46	.56	.50	.45	.43
6.0	.57	.48	.41	.56	.47	.41	.54	.46	.41	.52	.45	.40	.50	.44	.40	.38
7.0	.51	.42	.36	.50	.42	.36	.49	.41	.36	.47	.41	.36	.46	.40	.35	.33
8.0	.47	.38	.32	.46	.38	.32	.45	.37	.32	.43	.37	.32	.42	.36	.32	.30
9.0	.43	.35	.29	.42	.34	.29	.41	.34	.29	.40	.33	.29	.39	.33	.29	.27
10.0	.40	.32	.26	.39	.31	.26	.38	.31	.26	.37	.31	.26	.36	.30	.26	.24



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-06-22

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:230.1V I:0.0610A P:13.40W PF:0.9530 Lamp Flux:1389.71x1 lm		
NAME: CP10-16W-CC	TYPE:13W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:1
MFR.:	SUR.:0.0232	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	.308	.175	.056	.301	.172	.055	.288	.165	.053	.276	.159	.051	.265	.153	.049	
2.0	.291	.159	.049	.285	.157	.048	.273	.152	.047	.262	.147	.046	.252	.143	.045	
3.0	.269	.143	.043	.264	.141	.043	.254	.137	.042	.244	.134	.041	.235	.130	.040	
4.0	.249	.129	.038	.244	.128	.038	.235	.125	.037	.226	.122	.037	.218	.119	.036	
5.0	.230	.117	.034	.226	.116	.034	.218	.113	.033	.210	.111	.033	.203	.108	.033	
6.0	.213	.107	.031	.210	.106	.030	.202	.104	.030	.196	.102	.030	.189	.100	.030	
7.0	.199	.098	.028	.195	.097	.028	.189	.095	.027	.183	.094	.027	.177	.092	.027	
8.0	.186	.091	.025	.183	.090	.025	.177	.088	.025	.171	.087	.025	.166	.085	.025	
9.0	.174	.084	.023	.171	.083	.023	.166	.082	.023	.161	.081	.023	.156	.079	.023	
10.0	.164	.078	.022	.161	.078	.022	.156	.077	.022	.152	.075	.021	.148	.074	.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	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.180	.156	.134	.154	.134	.116	.105	.092	.080	.061	.053	.047	.019	.017	.015	
2.0	.172	.132	.098	.147	.114	.085	.101	.079	.059	.058	.046	.035	.019	.015	.011	
3.0	.164	.114	.074	.141	.099	.064	.097	.068	.045	.056	.040	.027	.018	.013	.009	
4.0	.157	.101	.058	.135	.087	.051	.093	.061	.036	.054	.036	.021	.017	.012	.007	
5.0	.149	.091	.047	.128	.078	.041	.088	.055	.029	.051	.032	.017	.016	.010	.006	
6.0	.142	.082	.039	.122	.071	.034	.084	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.135	.075	.033	.116	.065	.029	.080	.046	.021	.047	.027	.012	.015	.009	.004	
8.0	.129	.070	.029	.111	.060	.025	.077	.042	.018	.045	.025	.011	.014	.008	.004	
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: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-06-22

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:230.1V I:0.0610A P:13.40W PF:0.9530 Lamp Flux:1389.7lx1 lm										
NAME: CP10-16W-CC					TYPE:13W			WEIGHT:		
DIM.:					SPEC.:5700K			SERIAL No.:1		
MFR.:					SUR.:0.0232			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	23.0	24.5	23.2	24.7	24.9	23.1	24.6	23.3	24.8	25.0
3H	24.4	25.8	24.7	26.1	26.3	24.5	25.9	24.8	26.2	26.4
4H	25.0	26.3	25.3	26.6	26.8	25.1	26.5	25.4	26.7	27.0
6H	25.4	26.6	25.7	26.9	27.2	25.5	26.8	25.8	27.0	27.3
8H	25.5	26.7	25.8	27.0	27.3	25.6	26.8	26.0	27.1	27.4
12H	25.5	26.7	25.9	27.0	27.3	25.6	26.8	26.0	27.1	27.4
4H 2H	23.6	24.9	23.9	25.2	25.4	23.6	25.0	24.0	25.2	25.5
3H	25.2	26.4	25.6	26.7	27.0	25.3	26.5	25.7	26.8	27.1
4H	25.9	27.0	26.3	27.3	27.6	26.0	27.1	26.4	27.4	27.7
6H	26.4	27.3	26.8	27.7	28.1	26.5	27.5	26.9	27.8	28.2
8H	26.6	27.4	27.0	27.8	28.2	26.7	27.5	27.1	27.9	28.3
12H	26.6	27.4	27.1	27.8	28.2	26.7	27.5	27.2	27.9	28.3
8H 4H	26.1	27.0	26.6	27.4	27.8	26.2	27.1	26.7	27.5	27.9
6H	26.8	27.5	27.2	27.9	28.4	26.9	27.6	27.3	28.0	28.4
8H	27.0	27.7	27.5	28.1	28.5	27.1	27.7	27.6	28.2	28.6
12H	27.2	27.7	27.6	28.2	28.6	27.2	27.8	27.7	28.2	28.7
12H 4H	26.2	27.0	26.6	27.4	27.8	26.2	27.1	26.7	27.4	27.8
6H	26.8	27.5	27.3	27.9	28.4	26.9	27.6	27.4	28.0	28.4
8H	27.1	27.7	27.6	28.1	28.6	27.2	27.7	27.6	28.2	28.7
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				

CIE Pub.117 Corrected 1390 lm Total Lamp Luminous Flux.(8log(F/F0) = 1.1)

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-06-22

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:230.1V I:0.0610A P:13.40W PF:0.9530 Lamp Flux:1389.71x1 lm		
NAME: CP10-16W-CC	TYPE:13W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:1
MFR.:	SUR.:0.0232	PROTECTION ANGLE:

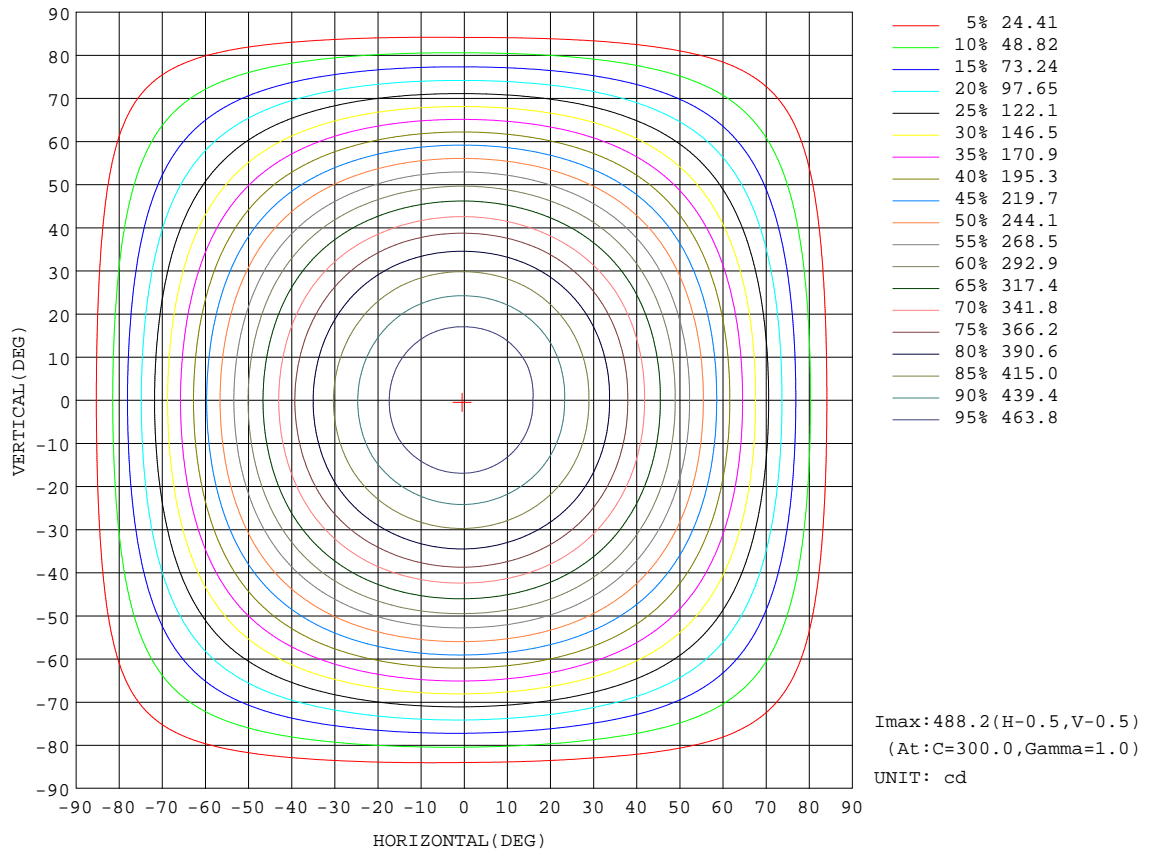
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	58	46	39	57	46	39	56	45	39	32
0.80	68	56	49	67	56	48	65	55	48	41
1.00	76	65	58	75	64	57	73	66	57	50
1.25	83	73	66	82	72	65	79	71	64	57
1.50	88	78	71	87	77	71	83	76	70	62
2.00	95	87	80	93	85	79	90	83	78	70
2.50	99	91	85	97	90	84	93	87	82	74
3.00	102	95	90	100	94	89	96	91	87	78
4.00	106	101	96	104	99	95	100	95	92	83
5.00	109	104	100	106	102	98	102	98	95	86
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-06-22

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:

ISOCANDELA DIAGRAM

Test:U:230.1V I:0.0610A P:13.40W PF:0.9530 Lamp Flux:1389.71x1 lm		
NAME: CP10-16W-CC	TYPE:13W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:1
MFR.:	SUR.:0.0232	PROTECTION ANGLE:

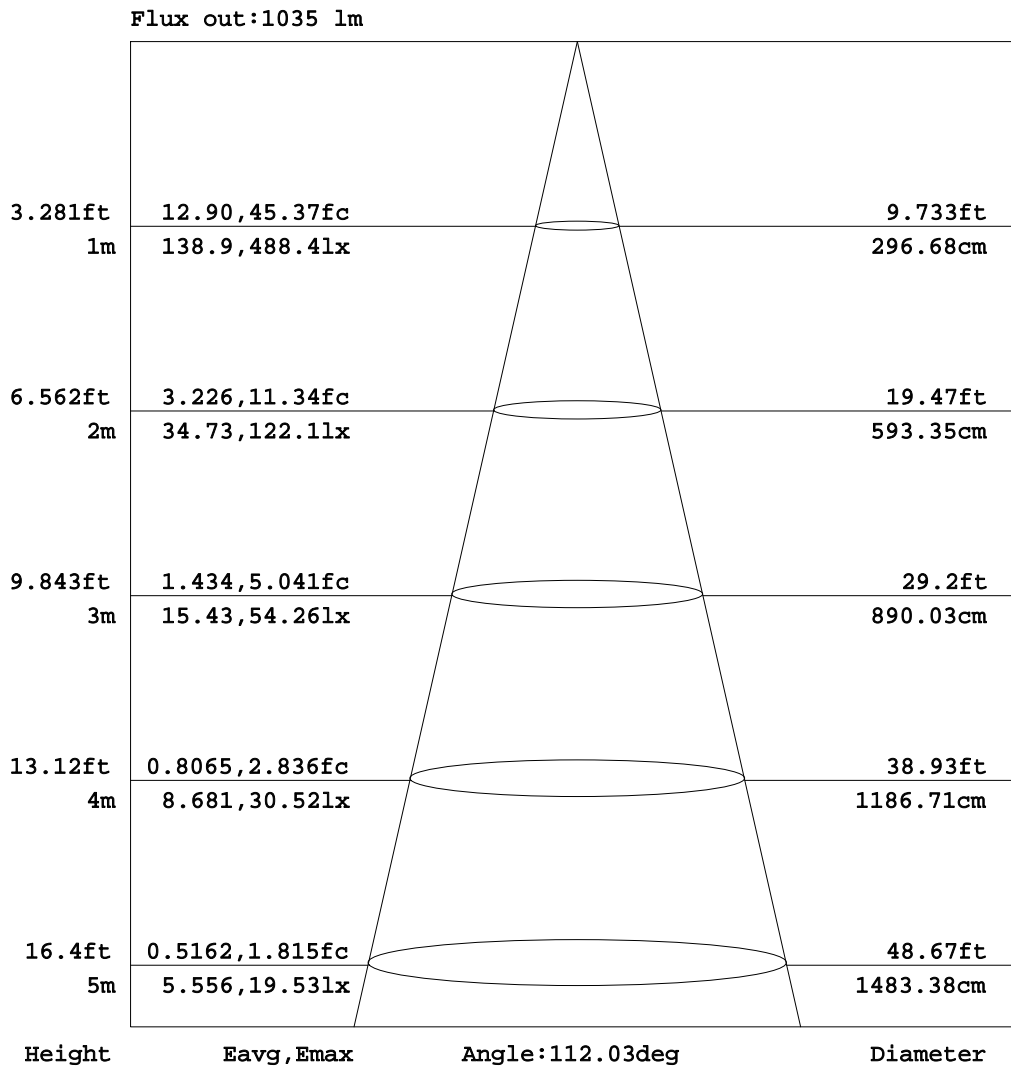


C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2019-06-22

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:

AAI Figure

Test:U:230.1V I:0.0610A P:13.40W PF:0.9530 Lamp Flux:1389.7lx1 lm		
NAME: CP10-16W-CC	TYPE:13W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:1
MFR.:	SUR.:0.0232	PROTECTION ANGLE:



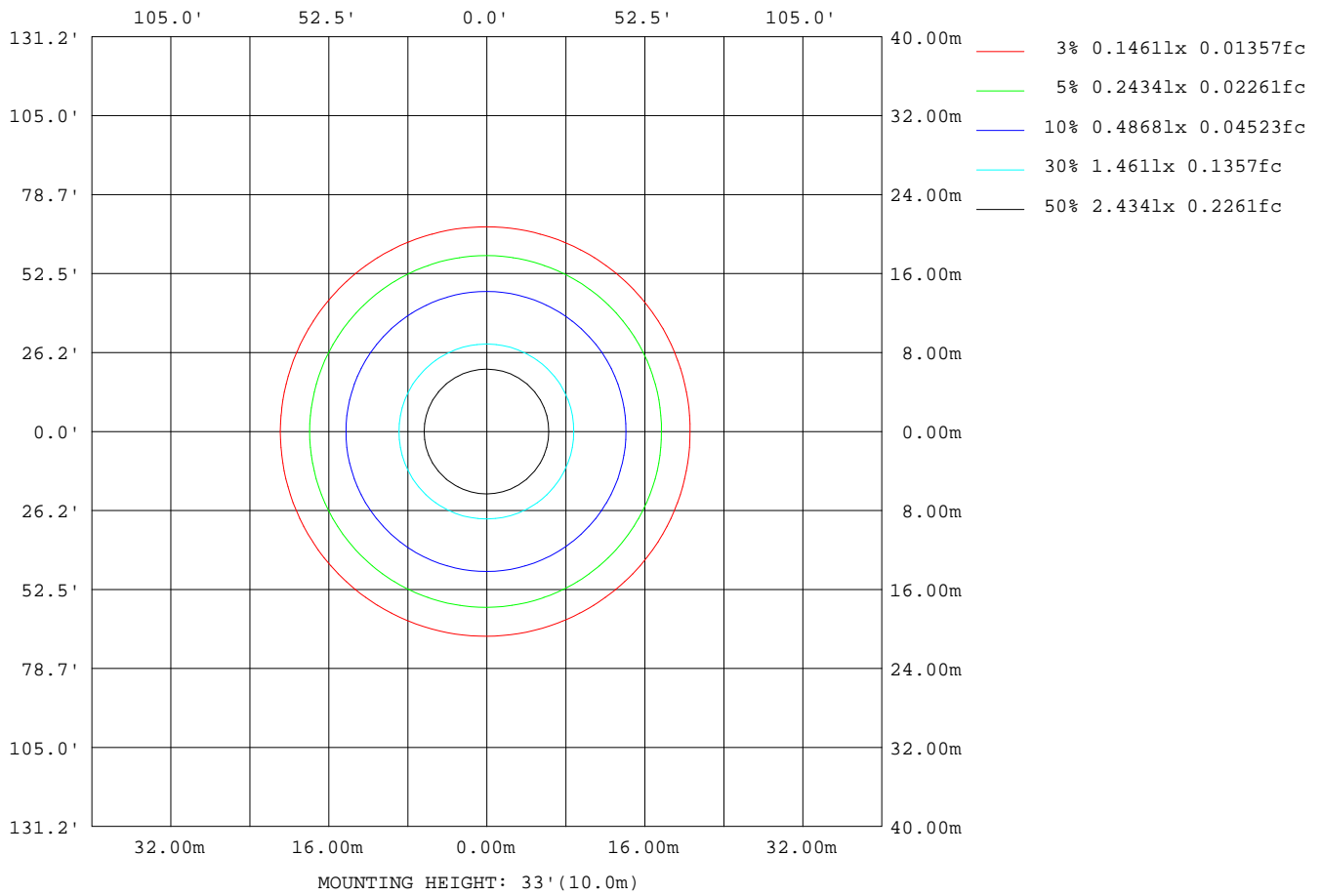
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-06-22

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:

ISOLUX DIAGRAM

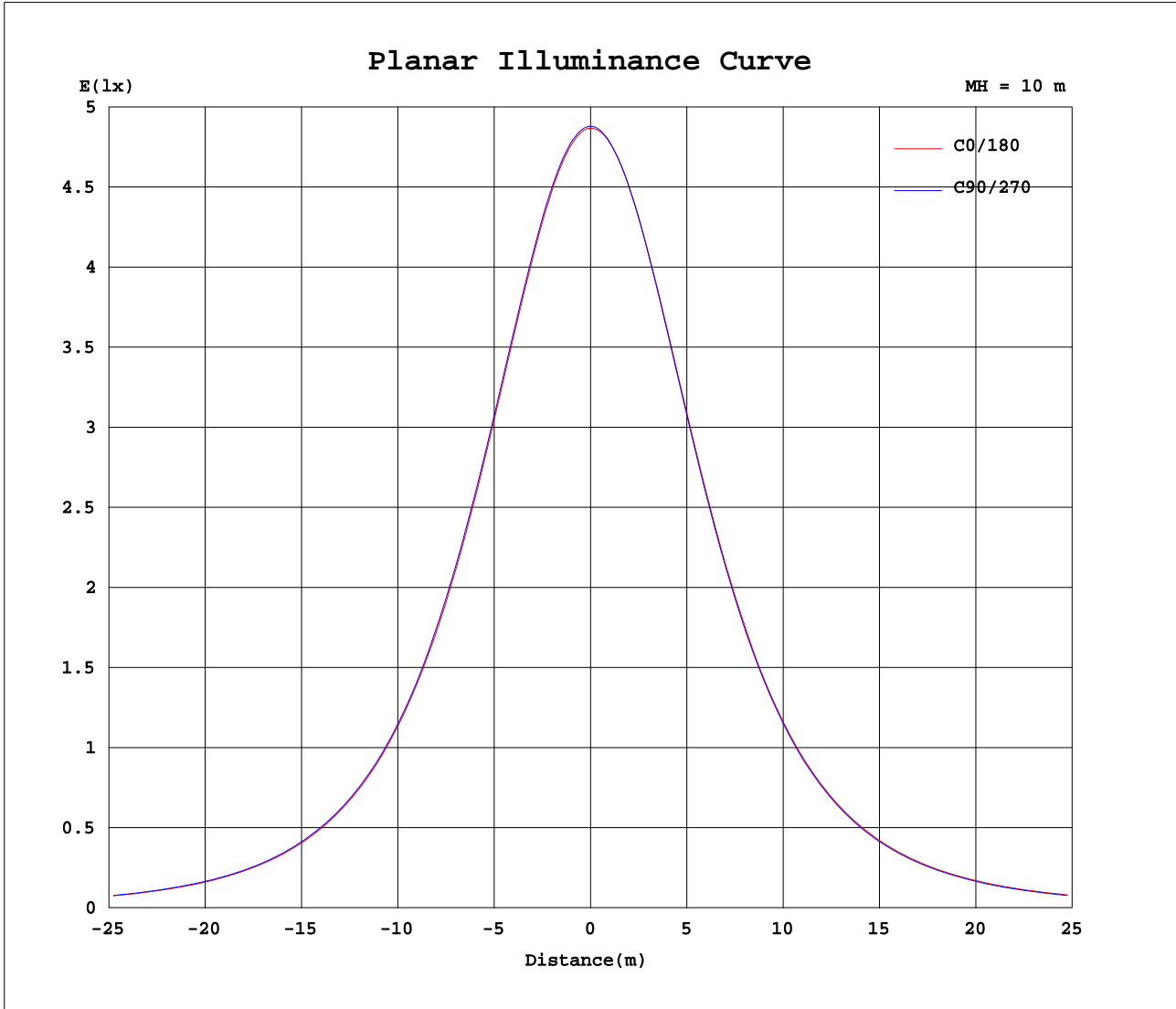
Test:U:230.1V I:0.0610A P:13.40W PF:0.9530 Lamp Flux:1389.7lx1 lm		
NAME: CP10-16W-CC	TYPE:13W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:1
MFR.:	SUR.:0.0232	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-06-22

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:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2019-06-22

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:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:230.1V I:0.0610A P:13.40W PF:0.9530 Lamp Flux:1389.71x1 lm		
NAME: CP10-16W-CC	TYPE:13W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:1
MFR.:	SUR.:0.0232	PROTECTION ANGLE:

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330							
0	488	488	488	488	488	488	488	488	488	488	488	488							
5	485	485	485	485	486	486	486	486	486	486	486	486							
10	478	479	479	479	480	480	481	480	480	479	479	478							
15	467	468	468	469	469	470	471	470	470	469	469	468							
20	452	453	453	454	455	456	457	456	456	455	454	453							
25	433	434	435	436	437	438	439	438	437	436	435	434							
30	410	411	412	414	415	416	417	416	415	414	413	411							
35	384	385	386	387	388	390	391	390	389	388	387	385							
40	354	354	356	357	359	361	362	361	359	358	357	355							
45	321	322	323	324	326	328	329	328	326	325	323	323							
50	285	286	288	289	291	293	294	293	291	290	288	287							
55	248	248	250	252	254	255	257	256	253	252	251	250							
60	208	209	211	212	214	216	218	216	214	213	212	210							
65	167	169	170	172	173	176	178	175	174	172	171	169							
70	127	128	129	131	133	135	137	134	133	131	131	129							
75	87.4	88.6	88.5	90.9	92.2	95.2	96.9	94.2	92.5	90.9	90.7	89.1							
80	50.9	51.4	50.5	52.2	54.2	57.4	59.4	57.0	54.6	52.8	52.8	52.2							
85	18.9	19.2	17.9	18.8	20.8	23.4	26.3	24.1	21.4	19.2	19.6	19.9							
90	0.49	0.50	0.46	0.46	0.46	0.47	0.85	0.63	0.62	0.62	0.65	0.65							

C Range: 0 - 360DEG	γ Range: 0 - 90DEG
C Interval: 30.0DEG	γ Interval: 1.0DEG
Test Speed: HIGH	Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Temperature:25.3DEG	Humidity:65.0%
Operators:DAMIN	Test Distance:9.443m [K=1.0000]
Test Date:2019-06-22	Remarks: