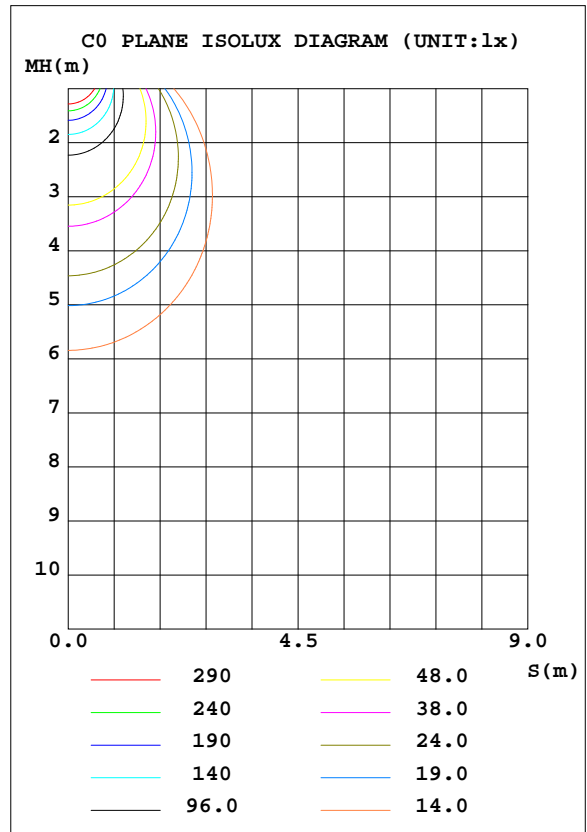
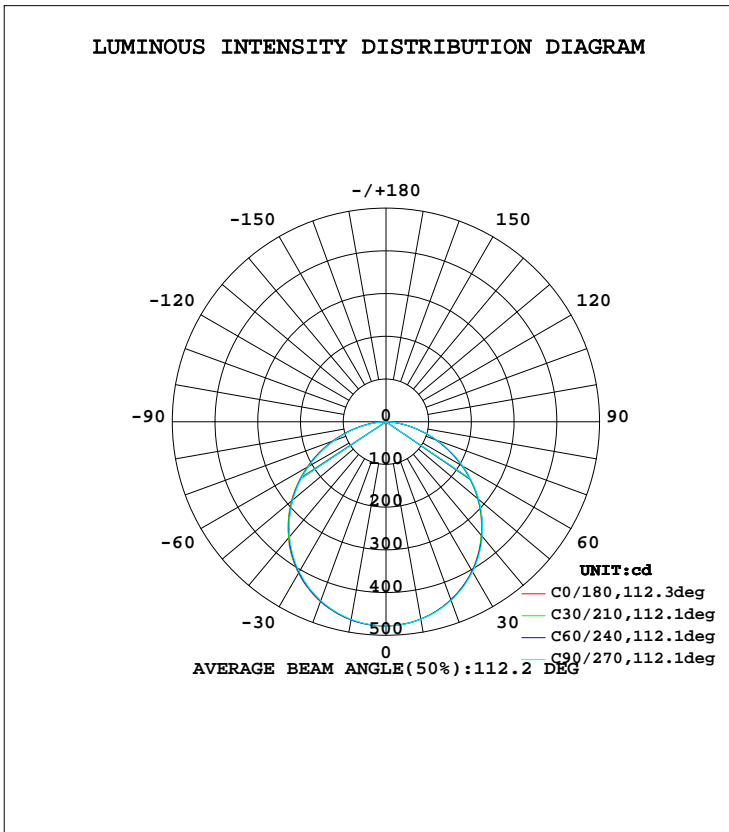


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:230.1V I:0.0600A P:13.20W PF:0.9520 Lamp Flux:1362.43x1 lm		
NAME: CP10-16W-CC	TYPE:13W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.0232	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 103.21 lm/W			
MODEL	CP10-16W-CC	I <sub>max</sub> (cd)	478.0	S/MH(C0/180)	1.25
NOMINAL POWER(W)	14	LOR(%)	100.0	S/MH(C90/270)	1.26
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	1362.4	η UP, DN(C0-180)	0.0, 49.8
NOMINAL FLUX(lm)	1362.43	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:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	$\Phi$ lum,lamp
10	468.8	469.0	469.6	470.3	471.1	470.5	469.7	469.2	0- 10	45.23	45.23	3.32,3.32
20	443.2	444.2	445.2	446.4	448.0	447.0	445.4	444.4	10- 20	129.7	175.0	12.8,12.8
30	402.6	403.8	405.4	407.0	409.3	407.5	405.6	404.1	20- 30	197.0	372.0	27.3,27.3
40	347.2	348.4	349.8	352.4	354.8	352.9	351.0	348.9	30- 40	237.7	609.7	44.8,44.8
50	280.1	281.5	283.3	286.2	288.7	286.5	284.4	282.1	40- 50	245.7	855.4	62.8,62.8
60	204.5	205.9	208.0	211.1	213.7	211.1	208.8	206.9	50- 60	220.9	1076	79,79
70	124.5	125.9	128.3	131.2	134.1	130.8	128.2	127.1	60- 70	166.9	1243	91.3,91.3
80	49.87	49.85	51.08	54.53	58.11	54.61	51.72	51.51	70- 80	94.84	1338	98.2,98.2
90	0.4668	0.4577	0.4666	0.4458	0.8140	0.5914	0.5923	0.6299	80- 90	24.32	1362	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		

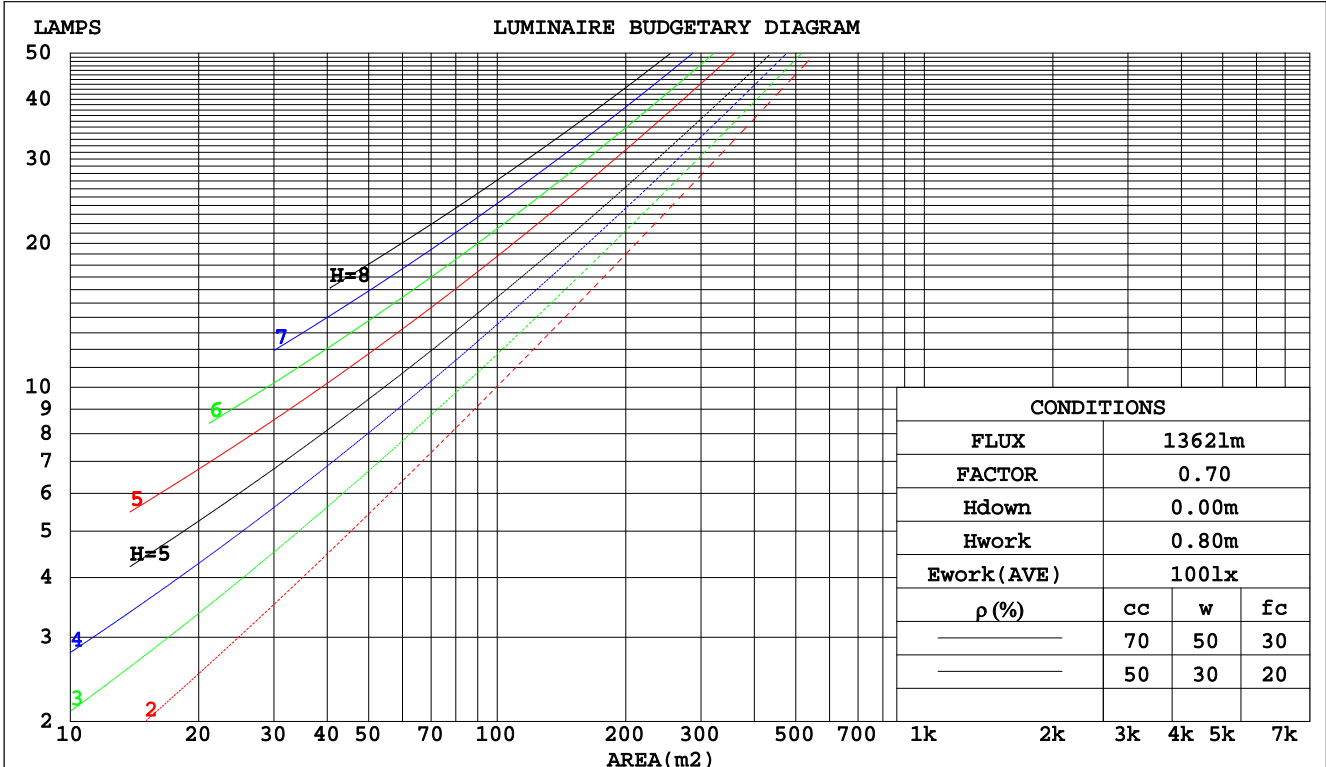
C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2019-06-22

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:0.0600A P:13.20W PF:0.9520 Lamp Flux:1362.43x1 lm		
NAME: CP10-16W-CC	TYPE:13W	WEIGHT:
DIM.:	SPEC.:3000K	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%	
pw																0
pfc																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	1.04	.00	.96	1.02	.98	.94	.97	.94	.91	.94	.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:0.0600A P:13.20W PF:0.9520 Lamp Flux:1362.43x1 lm		
NAME: CP10-16W-CC	TYPE:13W	WEIGHT:
DIM.:	SPEC.:3000K	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	.121	.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:0.0600A P:13.20W PF:0.9520 Lamp Flux:1362.43x1 lm										
NAME: CP10-16W-CC					TYPE:13W			WEIGHT:		
DIM.:					SPEC.:3000K			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	22.9	24.4	23.2	24.6	24.8	23.0	24.5	23.3	24.7	24.9
3H	24.4	25.8	24.7	26.0	26.2	24.5	25.9	24.8	26.1	26.3
4H	24.9	26.3	25.2	26.5	26.8	25.0	26.4	25.4	26.6	26.9
6H	25.3	26.6	25.6	26.8	27.1	25.4	26.7	25.8	27.0	27.2
8H	25.4	26.6	25.8	26.9	27.2	25.5	26.8	25.9	27.0	27.3
12H	25.5	26.6	25.8	26.9	27.2	25.6	26.7	25.9	27.0	27.3
4H 2H	23.5	24.9	23.8	25.1	25.4	23.6	24.9	23.9	25.2	25.4
3H	25.2	26.3	25.5	26.6	26.9	25.2	26.4	25.6	26.7	27.0
4H	25.8	26.9	26.2	27.2	27.6	25.9	27.0	26.3	27.3	27.7
6H	26.3	27.3	26.7	27.6	28.0	26.4	27.4	26.8	27.7	28.1
8H	26.5	27.4	26.9	27.7	28.1	26.6	27.5	27.0	27.8	28.2
12H	26.6	27.4	27.0	27.8	28.2	26.7	27.5	27.1	27.8	28.3
8H 4H	26.1	27.0	26.5	27.3	27.7	26.2	27.1	26.6	27.4	27.8
6H	26.7	27.5	27.2	27.9	28.3	26.8	27.5	27.2	27.9	28.4
8H	27.0	27.6	27.4	28.0	28.5	27.0	27.7	27.5	28.1	28.5
12H	27.1	27.7	27.6	28.1	28.6	27.1	27.7	27.6	28.2	28.6
12H 4H	26.1	26.9	26.5	27.3	27.7	26.2	27.0	26.6	27.4	27.8
6H	26.8	27.4	27.2	27.8	28.3	26.8	27.5	27.3	27.9	28.4
8H	27.0	27.6	27.5	28.0	28.5	27.1	27.7	27.6	28.1	28.6
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 1362 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:0.0600A P:13.20W PF:0.9520 Lamp Flux:1362.43x1 lm		
NAME: CP10-16W-CC	TYPE:13W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.0232	PROTECTION ANGLE:

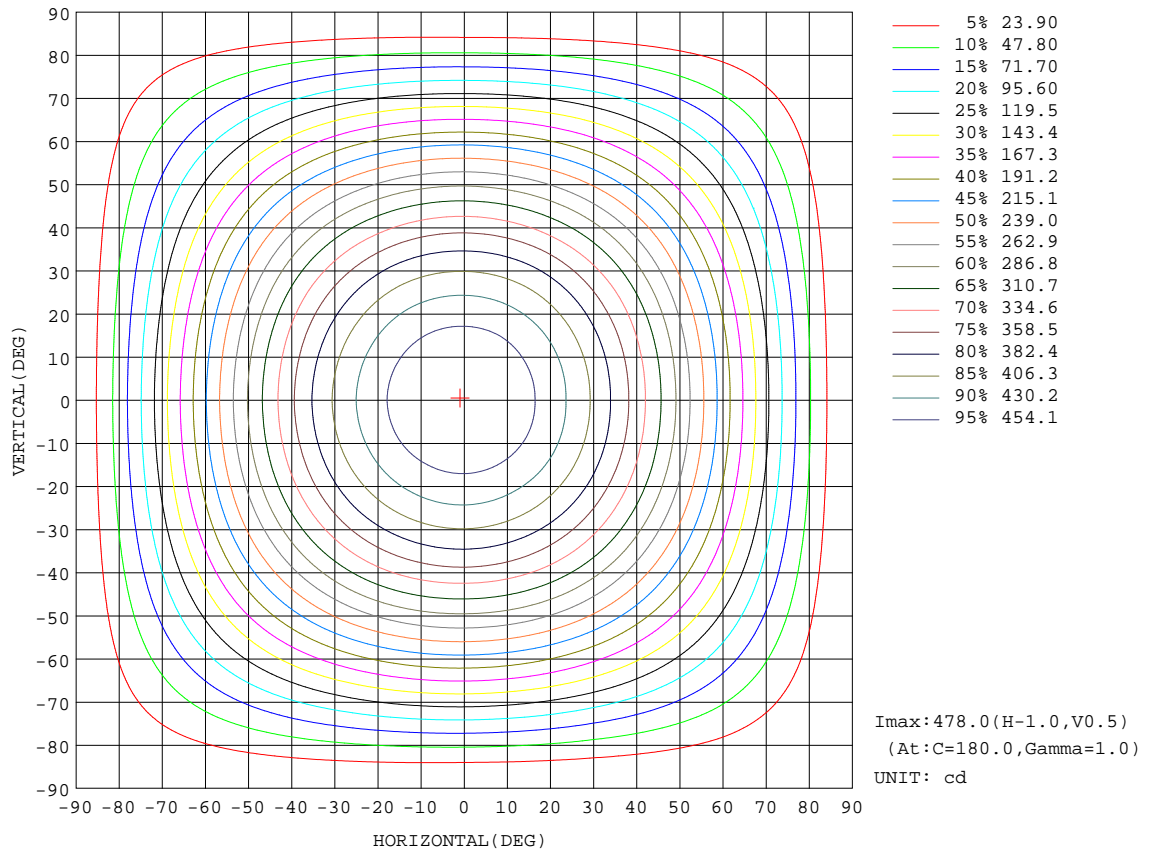
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	58	46	39	57	46	39	56	45	39	32
0.80	68	56	49	67	56	48	65	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

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:0.0600A P:13.20W PF:0.9520 Lamp Flux:1362.43x1 lm		
NAME: CP10-16W-CC	TYPE:13W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.0232	PROTECTION ANGLE:

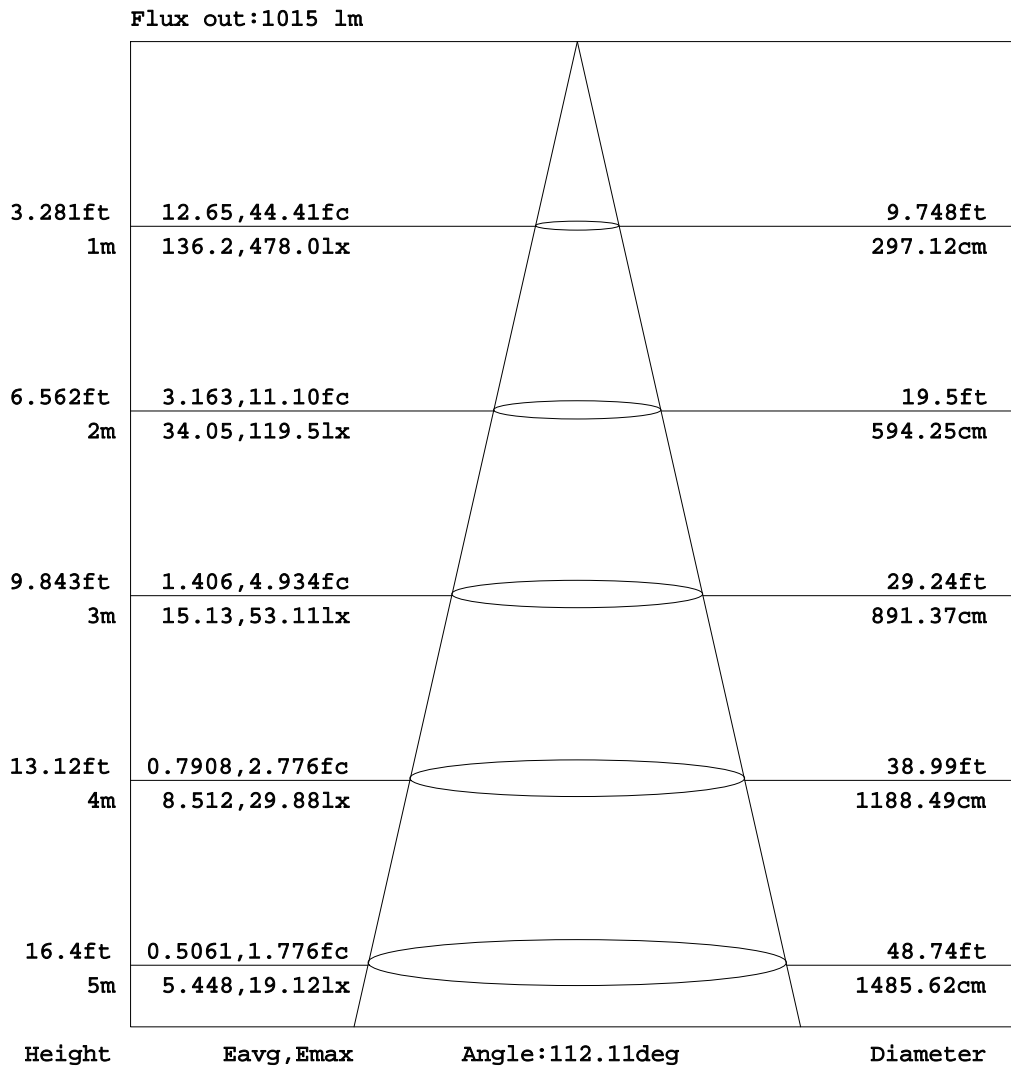


C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DAMIN  
 Test Date: 2019-06-22

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:0.0600A P:13.20W PF:0.9520 Lamp Flux:1362.43x1 lm		
NAME: CP10-16W-CC	TYPE:13W	WEIGHT:
DIM.:	SPEC.:3000K	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.

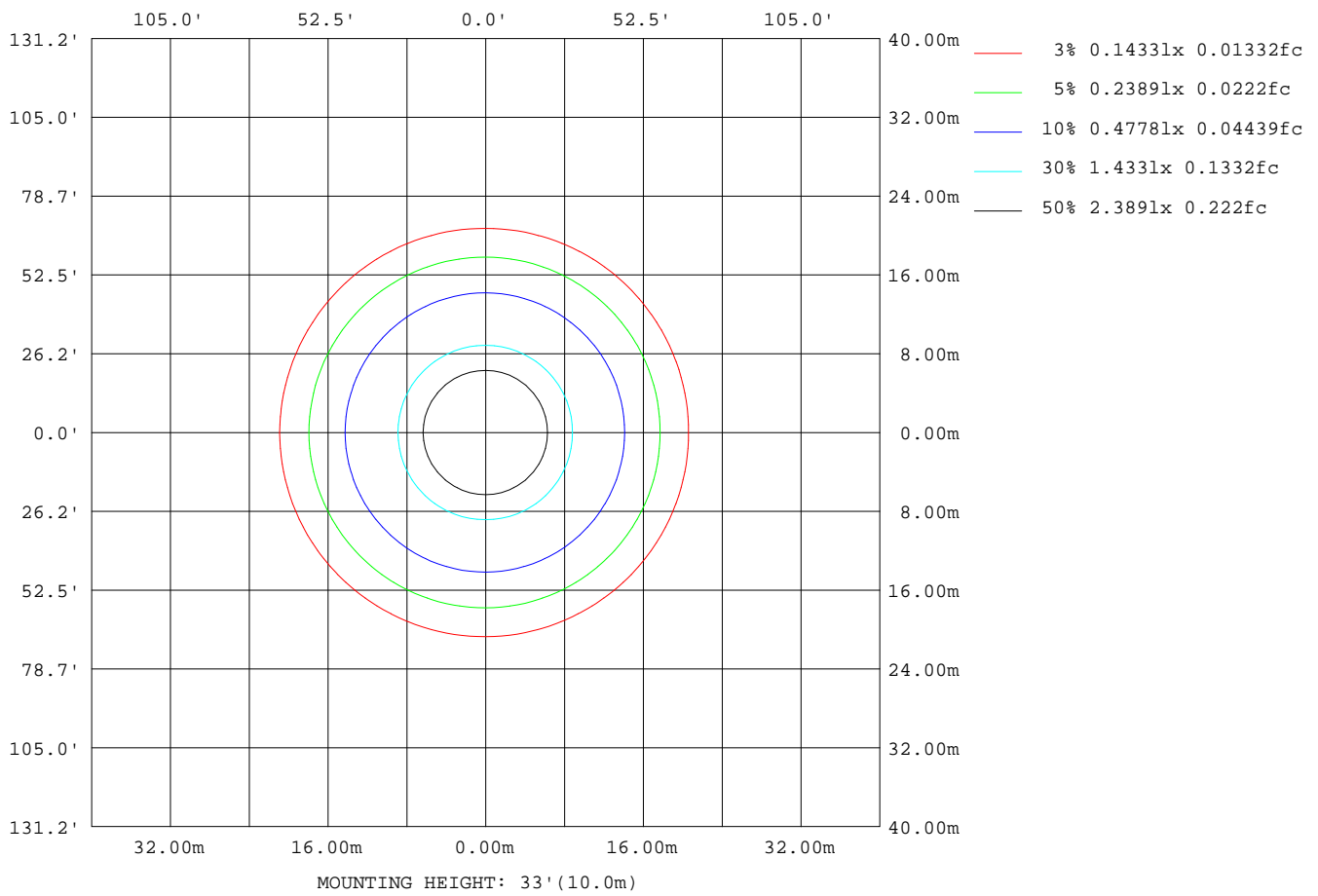
C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2019-06-22

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

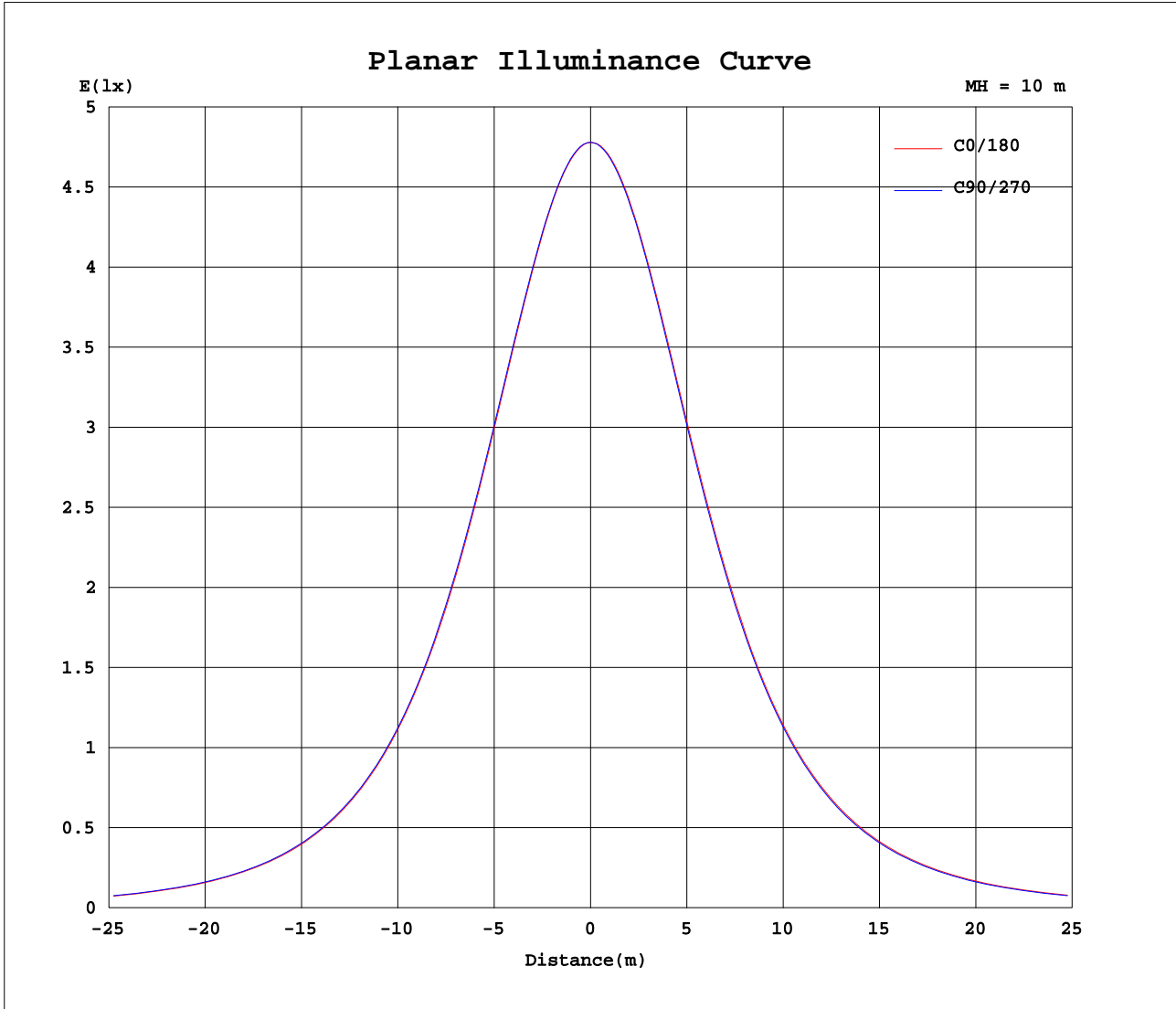
Test:U:230.1V I:0.0600A P:13.20W PF:0.9520 Lamp Flux:1362.43x1 lm		
NAME: CP10-16W-CC	TYPE:13W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.0232	PROTECTION ANGLE:



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

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:0.0600A P:13.20W PF:0.9520 Lamp Flux:1362.43x1 lm		
NAME: CP10-16W-CC	TYPE:13W	WEIGHT:
DIM.:	SPEC.:3000K	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	478	478	478	478	478	478	478	478	478	478	478	478							
5	475	475	476	476	476	476	477	476	476	476	476	475							
10	469	469	469	470	470	471	471	471	471	470	470	469							
15	458	458	459	459	460	461	462	461	460	460	459	458							
20	443	444	444	445	446	447	448	447	447	445	445	444							
25	425	426	426	427	428	429	431	429	429	427	427	426							
30	403	403	404	405	406	408	409	408	407	406	405	403							
35	377	378	378	380	381	383	384	383	382	380	380	378							
40	347	347	349	350	352	353	355	354	352	351	349	349							
45	315	315	317	318	320	321	323	322	320	319	317	316							
50	280	281	283	283	286	287	289	287	285	284	283	282							
55	243	244	245	246	249	250	252	251	249	248	246	245							
60	204	205	207	208	210	212	214	212	210	209	208	206							
65	164	165	166	168	170	172	174	172	170	168	168	166							
70	124	126	126	128	130	132	134	132	130	128	128	126							
75	85.7	86.8	86.6	88.9	90.3	93.1	94.8	92.3	90.8	89.1	88.9	87.5							
80	49.9	50.3	49.4	51.1	53.0	56.1	58.1	55.7	53.5	51.7	51.8	51.3							
85	18.6	18.7	17.5	18.4	20.4	22.8	25.6	23.5	20.9	18.8	19.2	19.5							
90	0.47	0.47	0.45	0.47	0.44	0.45	0.81	0.60	0.59	0.59	0.61	0.65							

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: