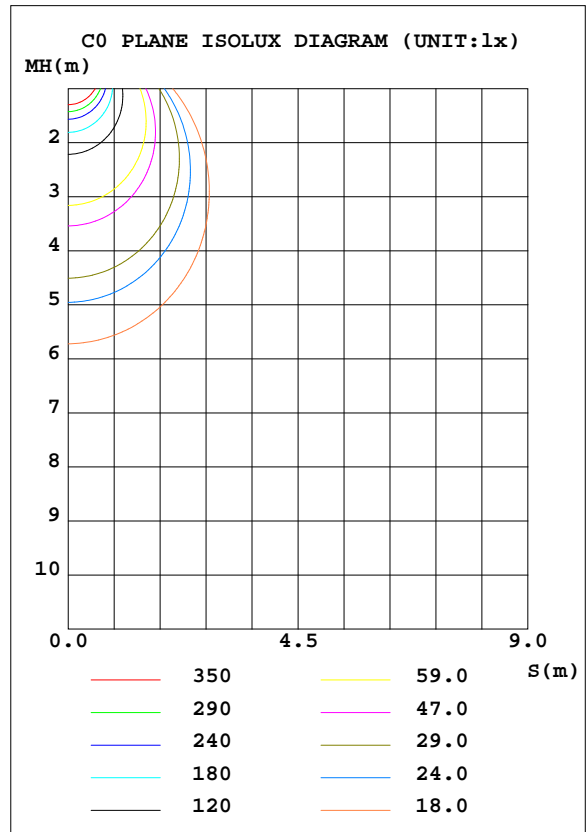
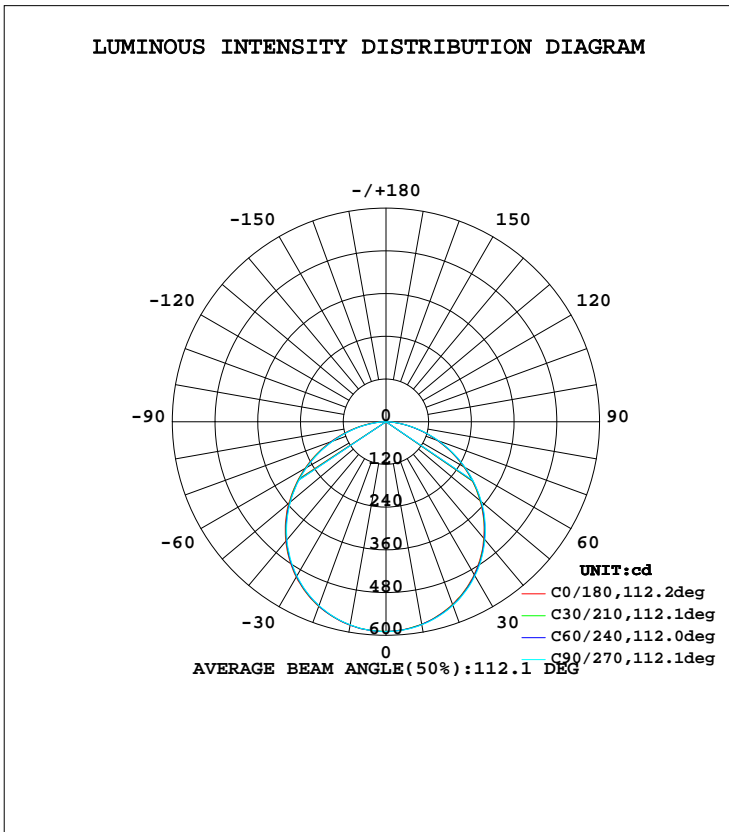


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:230.1V I:0.0760A P:17.00W PF:0.9660 Lamp Flux:1679.84x1 lm		
NAME: CP10-16W-CC	TYPE:16W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:1
MFR.:	SUR.:0.0232	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 98.81 lm/W			
MODEL	CP10-16W-CC	Imax(cd)	589.7	S/MH(C0/180)	1.25
NOMINAL POWER(W)	16	LOR(%)	100.0	S/MH(C90/270)	1.26
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	1679.8	η UP, DN(C0-180)	0.0, 49.8
NOMINAL FLUX(lm)	1679.84	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	577.6	577.9	578.9	579.5	580.6	579.8	579.5	578.0	0- 10	55.74	55.74	3.32,3.32
20	545.9	547.5	549.5	550.0	552.1	550.8	549.6	547.3	10- 20	159.9	215.6	12.8,12.8
30	495.7	497.4	500.2	501.4	503.9	502.2	500.1	497.5	20- 30	242.7	458.3	27.3,27.3
40	427.5	429.9	432.6	434.6	437.9	435.3	432.8	430.1	30- 40	292.9	751.2	44.7,44.7
50	344.9	346.8	349.6	352.2	356.3	352.9	350.6	347.5	40- 50	303.2	1054	62.8,62.8
60	251.9	254.0	256.6	260.1	263.4	260.1	257.4	254.8	50- 60	272.2	1327	79,79
70	153.3	155.4	158.5	161.8	165.4	161.2	158.3	156.7	60- 70	206.0	1533	91.2,91.2
80	61.66	61.74	63.24	67.52	71.86	67.43	63.93	63.60	70- 80	117.1	1650	98.2,98.2
90	0.7421	0.7121	0.6706	0.6937	1.125	0.8641	0.8682	0.9210	80- 90	30.18	1680	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		

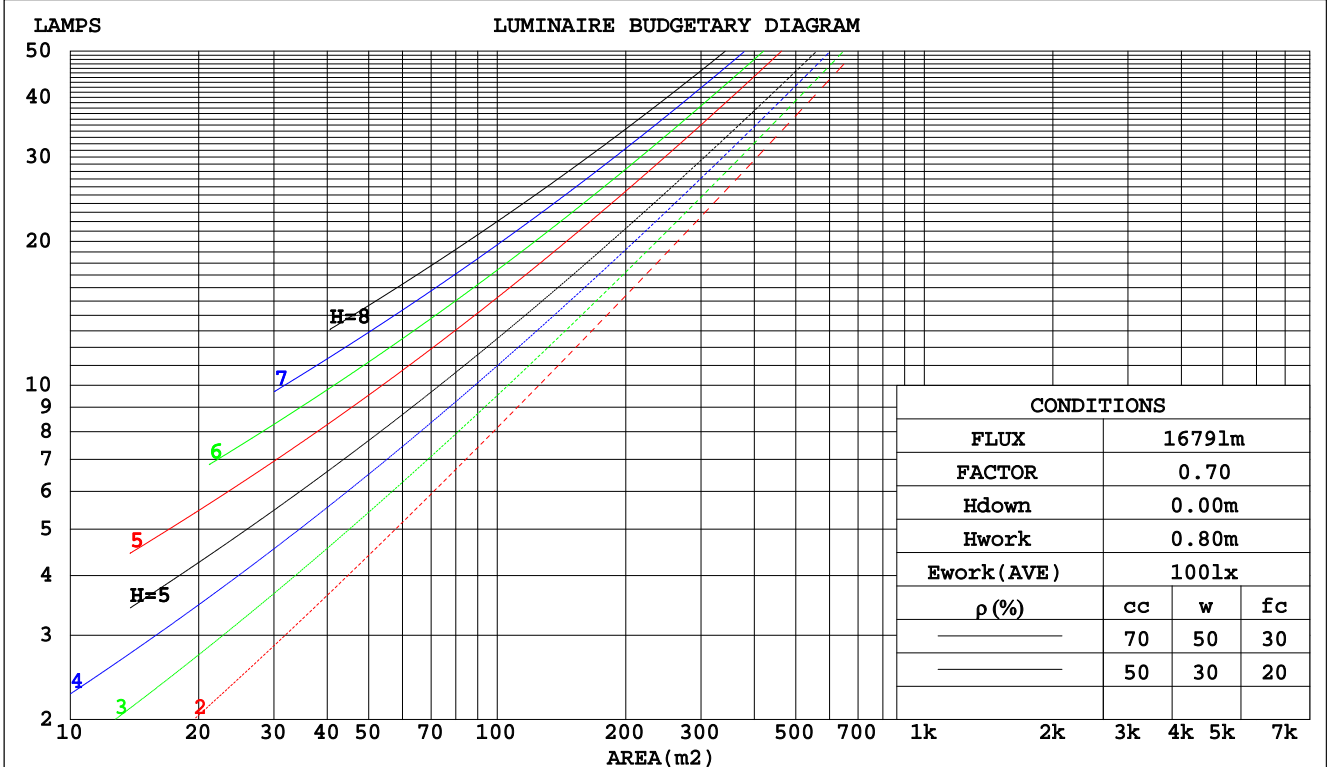
C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2019-06-22

$\gamma$  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:0.0760A P:17.00W PF:0.9660 Lamp Flux:1679.84x1 lm		
NAME: CP10-16W-CC	TYPE:16W	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																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	1.00
1.0	1.04	.90	.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	.61	.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	.28	.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:0.0760A P:17.00W PF:0.9660 Lamp Flux:1679.84x1 lm		
NAME: CP10-16W-CC	TYPE:16W	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	.309	.175	.056	.302	.172	.055	.288	.165	.053	.276	.159	.051	.265	.154	.049	
2.0	.291	.159	.049	.285	.157	.048	.273	.152	.047	.262	.147	.046	.252	.143	.045	
3.0	.270	.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	.026	.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	.157	.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:0.0760A P:17.00W PF:0.9660 Lamp Flux:1679.84x1 lm										
NAME: CP10-16W-CC					TYPE:16W			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	23.6	25.2	23.9	25.4	25.6	23.7	25.2	24.0	25.4	25.6
3H	25.1	26.5	25.4	26.7	27.0	25.2	26.6	25.5	26.8	27.1
4H	25.7	27.0	26.0	27.2	27.5	25.8	27.1	26.1	27.4	27.6
6H	26.0	27.3	26.4	27.6	27.9	26.2	27.4	26.5	27.7	28.0
8H	26.2	27.4	26.5	27.7	27.9	26.3	27.5	26.6	27.8	28.1
12H	26.2	27.4	26.5	27.7	28.0	26.3	27.5	26.7	27.8	28.1
4H 2H	24.2	25.6	24.6	25.8	26.1	24.3	25.6	24.6	25.9	26.1
3H	25.9	27.1	26.2	27.4	27.7	26.0	27.1	26.3	27.4	27.7
4H	26.6	27.6	26.9	28.0	28.3	26.7	27.7	27.0	28.1	28.4
6H	27.1	28.0	27.5	28.4	28.7	27.2	28.1	27.6	28.5	28.8
8H	27.2	28.1	27.6	28.5	28.9	27.3	28.2	27.7	28.6	29.0
12H	27.3	28.1	27.7	28.5	28.9	27.4	28.2	27.8	28.6	29.0
8H 4H	26.8	27.7	27.2	28.1	28.5	26.9	27.8	27.3	28.2	28.5
6H	27.5	28.2	27.9	28.6	29.0	27.5	28.3	28.0	28.7	29.1
8H	27.7	28.3	28.1	28.8	29.2	27.8	28.4	28.2	28.8	29.3
12H	27.8	28.4	28.3	28.8	29.3	27.9	28.5	28.4	28.9	29.4
12H 4H	26.8	27.6	27.3	28.0	28.4	26.9	27.7	27.3	28.1	28.5
6H	27.5	28.2	28.0	28.6	29.0	27.6	28.2	28.0	28.7	29.1
8H	27.8	28.3	28.2	28.8	29.3	27.8	28.4	28.3	28.8	29.3
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 1680 lm Total Lamp Luminous Flux.(8log(F/F0) = 1.8)

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:0.0760A P:17.00W PF:0.9660 Lamp Flux:1679.84x1 lm		
NAME: CP10-16W-CC	TYPE:16W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:1
MFR.:	SUR.:0.0232	PROTECTION ANGLE:

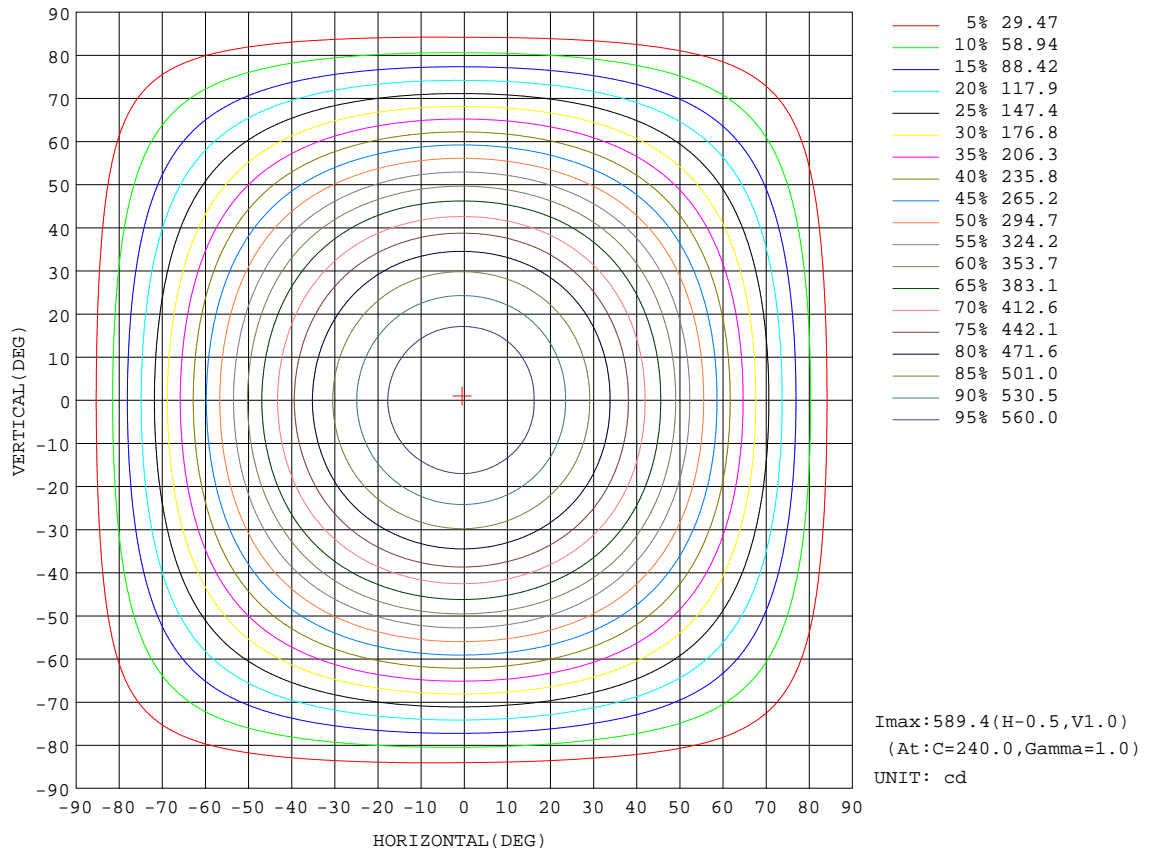
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	58	46	39	57	46	39	56	45	39	32
0.80	68	56	49	67	56	48	65	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	86	77	71	83	76	70	62
2.00	95	86	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:0.0760A P:17.00W PF:0.9660 Lamp Flux:1679.84x1 lm		
NAME: CP10-16W-CC	TYPE:16W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:1
MFR.:	SUR.:0.0232	PROTECTION ANGLE:

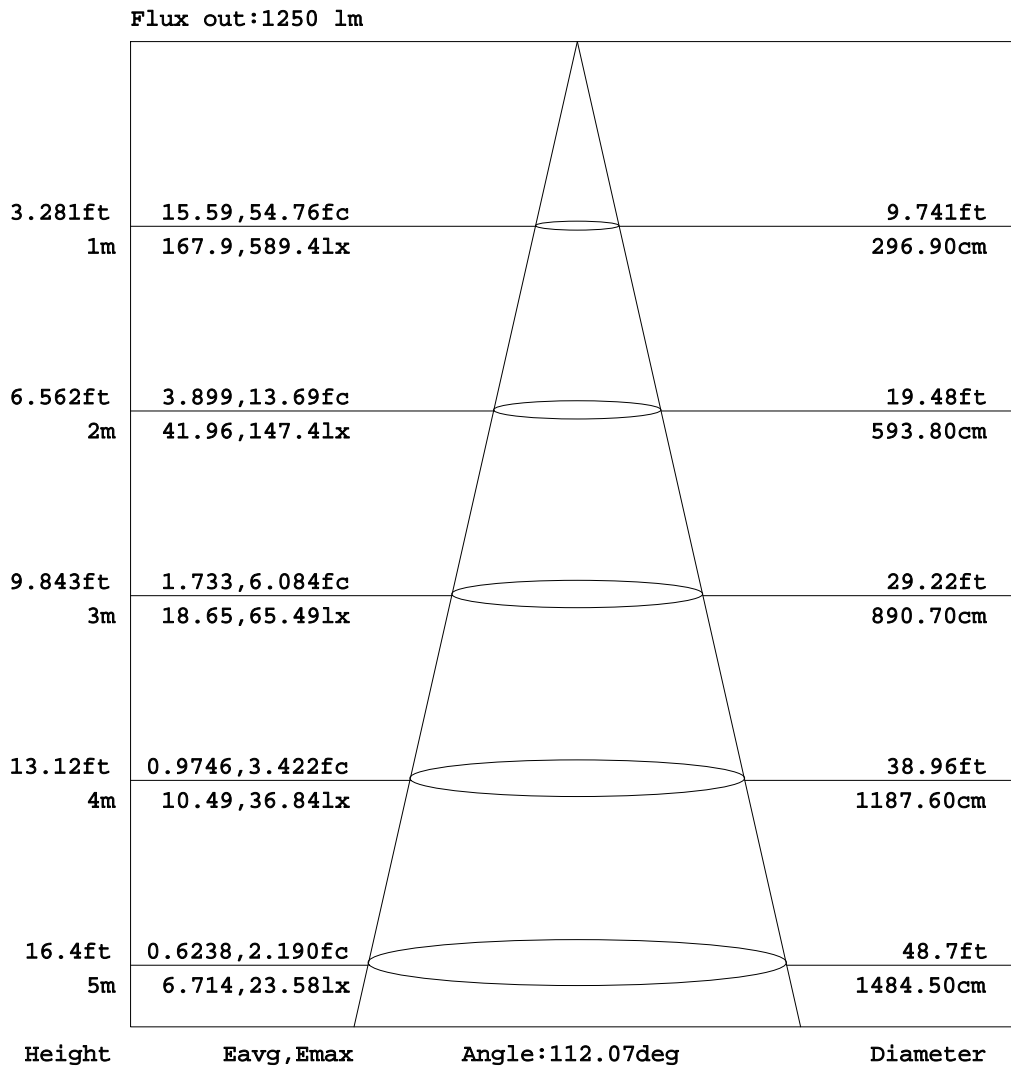


C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2019-06-22

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:0.0760A P:17.00W PF:0.9660 Lamp Flux:1679.84x1 lm		
NAME: CP10-16W-CC	TYPE:16W	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.

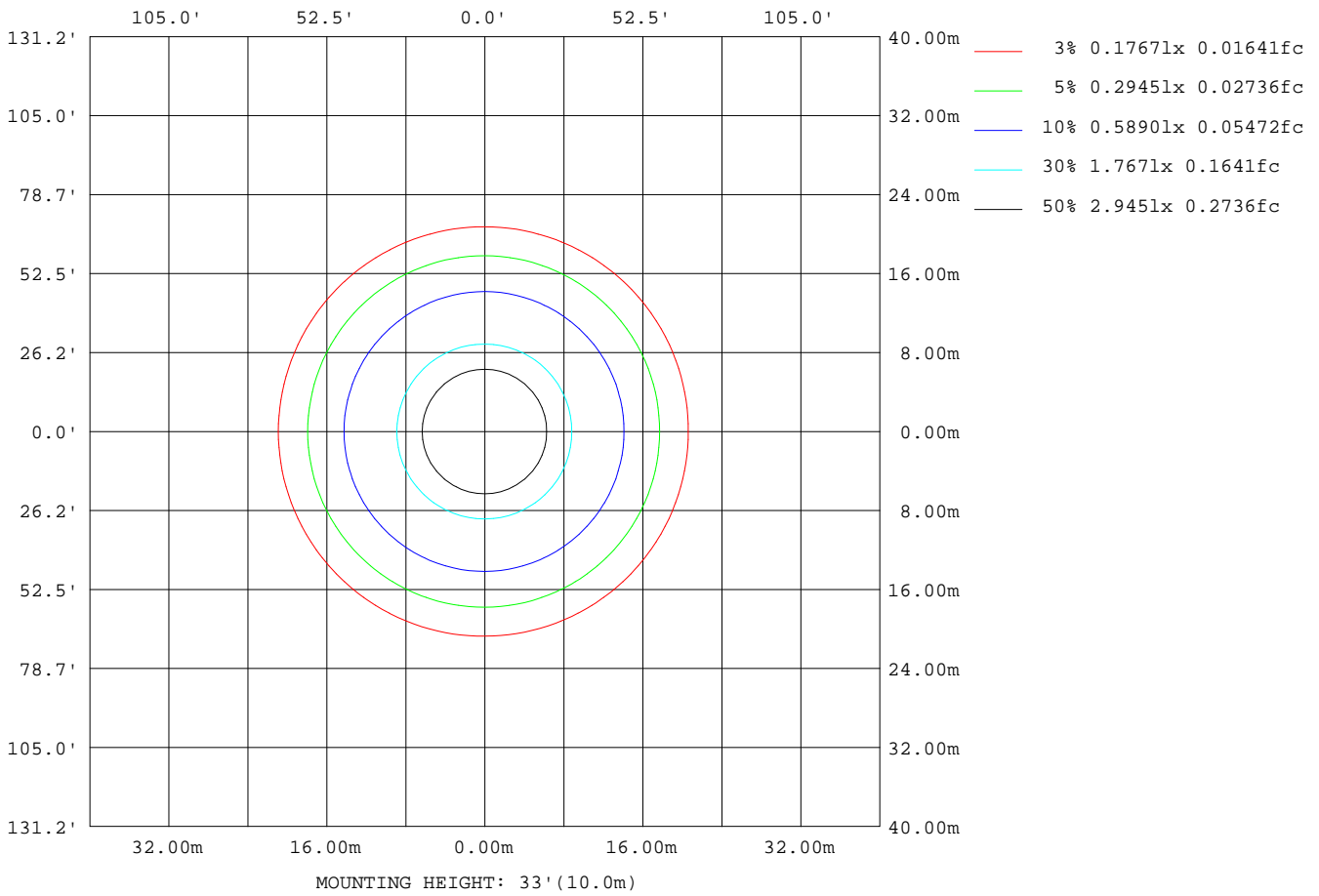
C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2019-06-22

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**

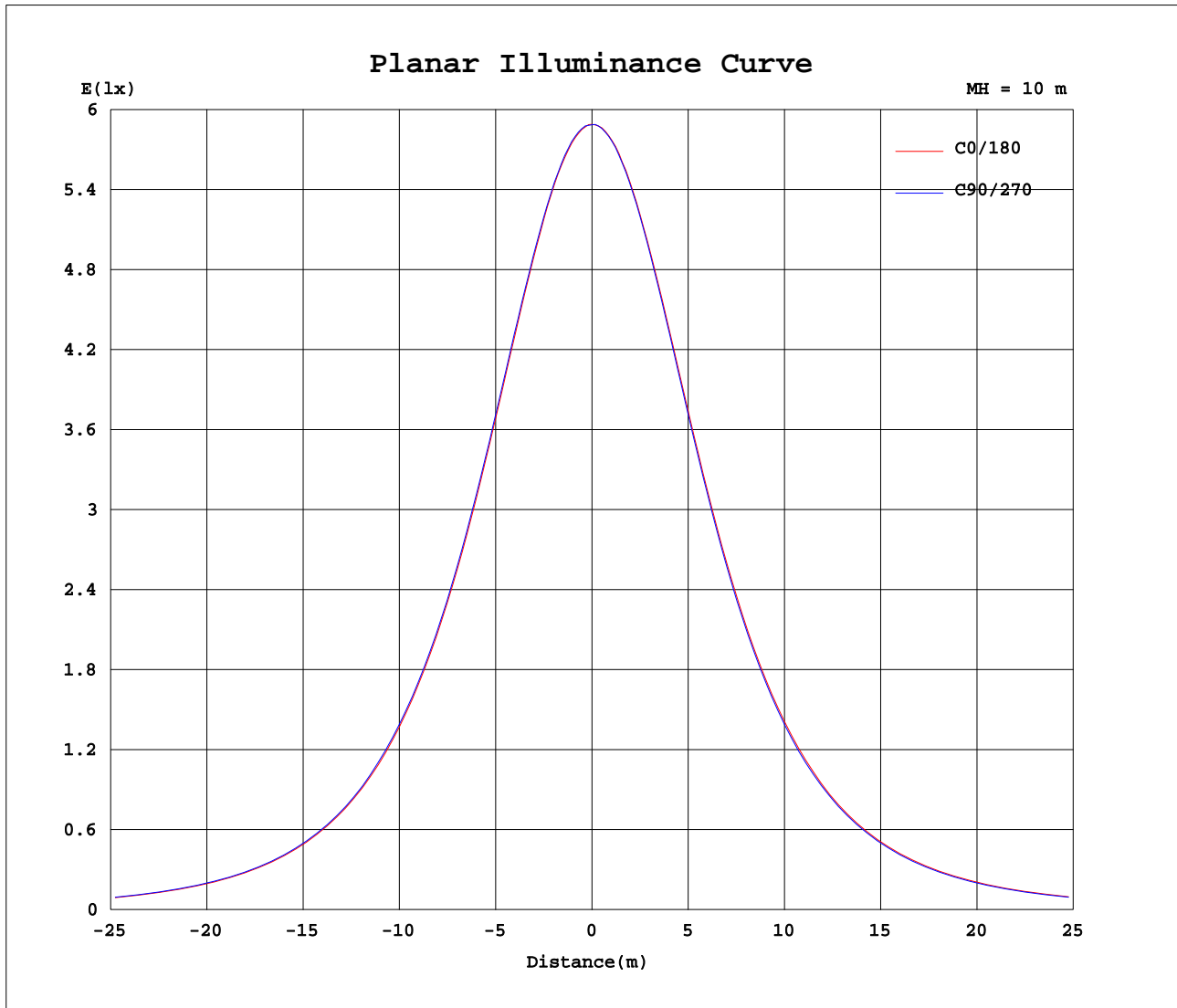
Test:U:230.1V I:0.0760A P:17.00W PF:0.9660 Lamp Flux:1679.84x1 lm		
NAME: CP10-16W-CC	TYPE:16W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:1
MFR.:	SUR.:0.0232	PROTECTION ANGLE:



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

$\gamma$  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:0.0760A P:17.00W PF:0.9660 Lamp Flux:1679.84x1 lm		
NAME: CP10-16W-CC	TYPE:16W	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	589	589	589	589	589	589	589	589	589	589	589	589							
5	586	586	586	587	586	587	587	587	587	587	586	586							
10	578	578	578	579	579	580	581	580	580	579	578	578							
15	564	565	566	567	566	567	568	568	567	567	566	565							
20	546	547	548	549	549	551	552	551	550	550	548	547							
25	523	524	525	527	527	529	530	529	528	527	526	524							
30	496	497	498	500	500	503	504	503	502	500	498	497							
35	463	465	466	468	469	471	473	471	470	469	467	465							
40	427	429	431	433	433	436	438	436	435	433	431	429							
45	388	390	391	393	394	397	399	397	395	393	392	390							
50	345	346	348	350	352	353	356	354	352	351	348	347							
55	299	300	303	304	306	308	310	309	306	305	303	301							
60	252	253	255	257	259	261	263	261	259	257	256	254							
65	203	204	206	208	210	213	215	212	210	208	207	205							
70	153	155	156	159	160	163	165	162	160	158	158	156							
75	106	107	107	110	112	115	117	114	112	110	110	108							
80	61.7	62.3	61.2	63.2	65.6	69.5	71.9	68.8	66.1	63.9	64.0	63.2							
85	23.1	23.3	21.8	22.8	25.3	28.4	31.8	29.1	25.9	23.3	23.8	24.1							
90	0.74	0.74	0.68	0.67	0.68	0.71	1.13	0.87	0.85	0.87	0.90	0.94							

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: