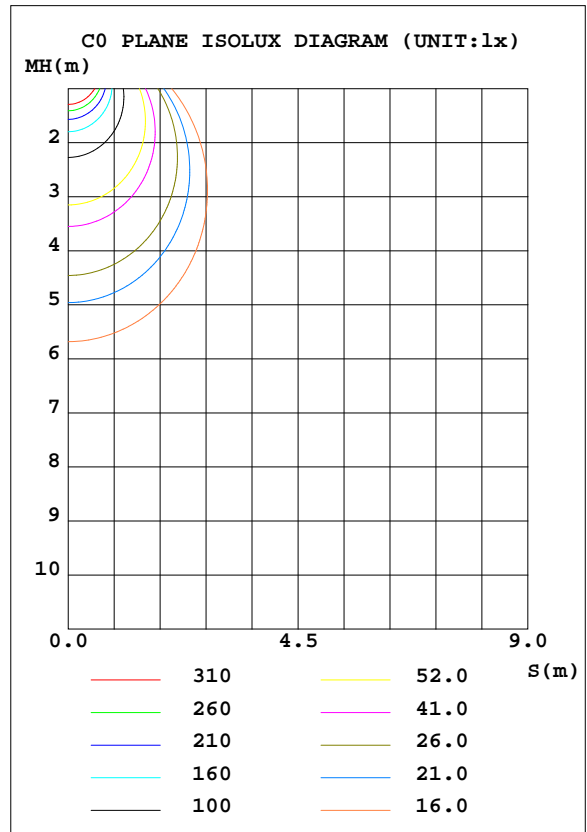
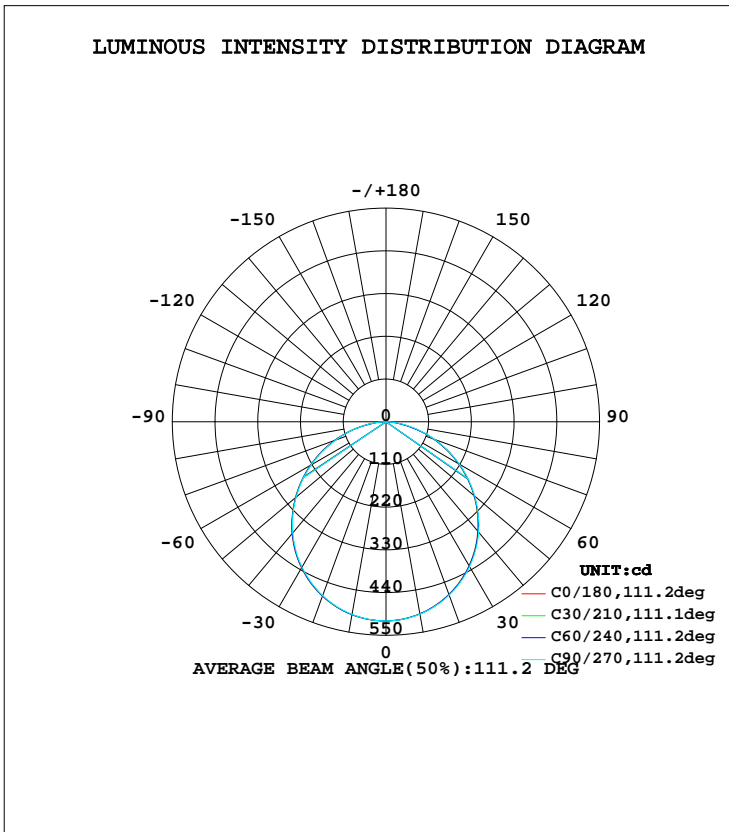


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:240.4V I:0.0700A P:15.80W PF:0.9340 Lamp Flux:1442.2lx1 lm		
NAME: CP16W-WW	TYPE:16W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.065	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 91.28 lm/W			
MODEL	CP16W-WW	I _{max} (cd)	513.0	S/MH(C0/180)	1.24
NOMINAL POWER(W)	16	LOR(%)	100.0	S/MH(C90/270)	1.25
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	1442.2	η UP, DN(C0-180)	0.0, 49.6
NOMINAL FLUX(lm)	1442.21	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 50.4
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	240.3	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:2018-12-22

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	502.1	502.6	503.1	503.7	504.7	504.3	503.8	503.2	0- 10	48.50	48.50	3.36,3.36
20	473.2	474.1	475.2	476.3	478.2	477.4	476.4	475.3	10- 20	138.8	187.3	13,13
30	427.8	429.0	430.7	432.2	434.9	433.8	432.5	430.7	20- 30	209.9	397.2	27.5,27.5
40	367.8	369.1	371.2	373.2	376.5	375.1	373.4	371.4	30- 40	252.4	649.6	45,45
50	295.7	296.7	298.5	301.3	304.7	303.7	302.3	299.4	40- 50	260.2	909.8	63.1,63.1
60	215.3	216.4	218.2	221.3	225.2	224.0	222.3	219.3	50- 60	233.3	1143	79.3,79.3
70	130.5	131.7	133.8	136.7	141.2	139.8	137.7	134.9	60- 70	176.2	1319	91.5,91.5
80	50.78	46.62	53.45	53.65	60.48	56.03	57.62	52.21	70- 80	99.09	1418	98.3,98.3
90	0.5405	0.5312	0.5214	0.5204	0.9325	0.8434	0.6833	0.6738	80- 90	23.81	1442	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		

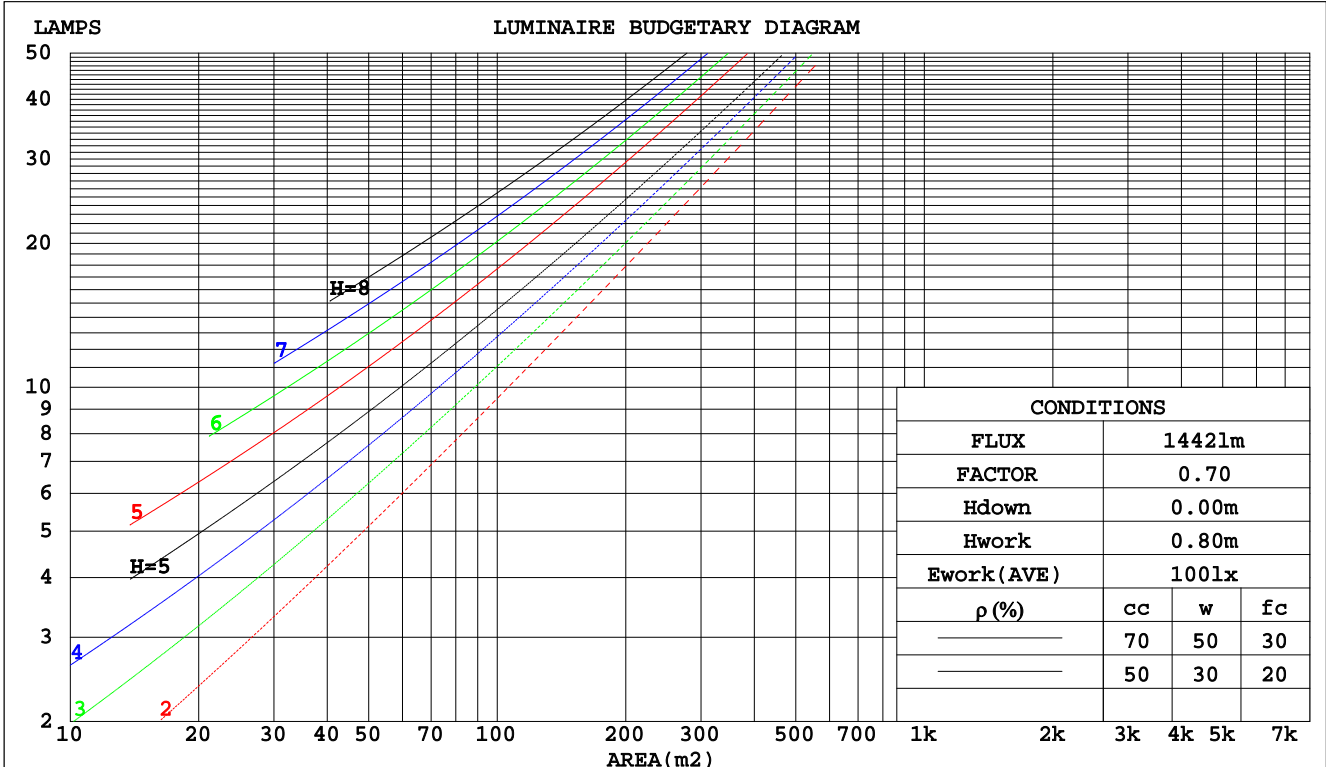
C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-12-22

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:240.4V I:0.0700A P:15.80W PF:0.9340 Lamp Flux:1442.2lx1 lm		
NAME: CP16W-WW	TYPE:16W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.065	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	1.11	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	.98	.94	.91	.94	.91	.89	.90	.88	.86	.84
2.0	.91	.84	.78	.89	.83	.77	.85	.80	.75	.82	.78	.74	.79	.75	.72	.70
3.0	.80	.71	.65	.78	.70	.64	.75	.69	.63	.72	.67	.62	.70	.65	.61	.59
4.0	.71	.62	.55	.69	.61	.55	.67	.59	.54	.64	.58	.53	.62	.57	.52	.50
5.0	.63	.54	.47	.62	.53	.47	.60	.52	.47	.58	.51	.46	.56	.50	.46	.43
6.0	.57	.48	.41	.56	.47	.41	.54	.46	.41	.52	.45	.40	.51	.45	.40	.38
7.0	.51	.43	.36	.51	.42	.36	.49	.42	.36	.48	.41	.36	.46	.40	.35	.33
8.0	.47	.38	.32	.46	.38	.32	.45	.37	.32	.44	.37	.32	.42	.36	.32	.30
9.0	.43	.35	.29	.42	.35	.29	.41	.34	.29	.40	.34	.29	.39	.33	.29	.27
10.0	.40	.32	.26	.39	.32	.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:2018-12-22

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:240.4V I:0.0700A P:15.80W PF:0.9340 Lamp Flux:1442.21x1 lm		
NAME: CP16W-WW	TYPE:16W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.065	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	.306	.174	.055	.299	.171	.054	.286	.164	.052	.274	.158	.051	.263	.152	.049	
2.0	.289	.159	.049	.283	.156	.048	.272	.151	.047	.261	.146	.046	.251	.142	.045	
3.0	.268	.143	.043	.263	.141	.042	.253	.137	.042	.243	.133	.041	.234	.130	.040	
4.0	.248	.129	.038	.243	.127	.038	.234	.124	.037	.225	.121	.037	.218	.118	.036	
5.0	.229	.117	.034	.225	.116	.034	.217	.113	.033	.209	.111	.033	.202	.108	.032	
6.0	.213	.107	.031	.209	.106	.030	.202	.103	.030	.195	.101	.030	.189	.099	.030	
7.0	.198	.098	.028	.195	.097	.028	.188	.095	.027	.182	.093	.027	.177	.092	.027	
8.0	.185	.091	.025	.182	.090	.025	.176	.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	.163	.078	.022	.161	.078	.022	.156	.076	.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	.135	.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	.075	.141	.099	.065	.097	.068	.045	.056	.040	.027	.018	.013	.009	
4.0	.157	.101	.058	.134	.087	.051	.092	.061	.036	.053	.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	.069	.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:2018-12-22

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:240.4V I:0.0700A P:15.80W PF:0.9340 Lamp Flux:1442.2lx1 lm										
NAME: CP16W-WW					TYPE:16W			WEIGHT:		
DIM.:					SPEC.:3000K			SERIAL No.:1		
MFR.:					SUR.:0.065			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	25.1	26.7	25.4	26.9	27.1	25.1	26.7	25.4	26.9	27.1
3H	26.6	28.0	26.9	28.2	28.5	26.6	28.0	26.9	28.2	28.5
4H	27.1	28.5	27.4	28.7	29.0	27.2	28.5	27.5	28.8	29.0
6H	27.5	28.7	27.8	29.0	29.3	27.5	28.8	27.9	29.1	29.3
8H	27.6	28.8	27.9	29.1	29.4	27.6	28.9	28.0	29.1	29.4
12H	27.6	28.8	28.0	29.1	29.4	27.7	28.8	28.0	29.1	29.4
4H 2H	25.7	27.1	26.0	27.3	27.6	25.7	27.1	26.1	27.3	27.6
3H	27.4	28.5	27.7	28.8	29.1	27.4	28.5	27.7	28.8	29.1
4H	28.0	29.1	28.4	29.4	29.7	28.0	29.1	28.4	29.4	29.8
6H	28.5	29.4	28.9	29.8	30.2	28.5	29.5	28.9	29.8	30.2
8H	28.6	29.5	29.0	29.9	30.3	28.6	29.5	29.1	29.9	30.3
12H	28.7	29.5	29.1	29.9	30.3	28.7	29.5	29.1	29.9	30.3
8H 4H	28.3	29.1	28.7	29.5	29.9	28.3	29.1	28.7	29.5	29.9
6H	28.8	29.6	29.3	30.0	30.4	28.8	29.6	29.3	30.0	30.4
8H	29.0	29.7	29.5	30.1	30.6	29.0	29.7	29.5	30.1	30.6
12H	29.1	29.7	29.6	30.1	30.6	29.2	29.7	29.6	30.2	30.6
12H 4H	28.2	29.1	28.7	29.4	29.8	28.3	29.1	28.7	29.5	29.9
6H	28.9	29.5	29.3	29.9	30.4	28.9	29.5	29.3	29.9	30.4
8H	29.1	29.6	29.6	30.1	30.6	29.1	29.6	29.6	30.1	30.6
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 1442 lm Total Lamp Luminous Flux.(8log(F/F0) = 1.3)

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-12-22

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:240.4V I:0.0700A P:15.80W PF:0.9340 Lamp Flux:1442.21x1 lm		
NAME: CP16W-WW	TYPE:16W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.065	PROTECTION ANGLE:

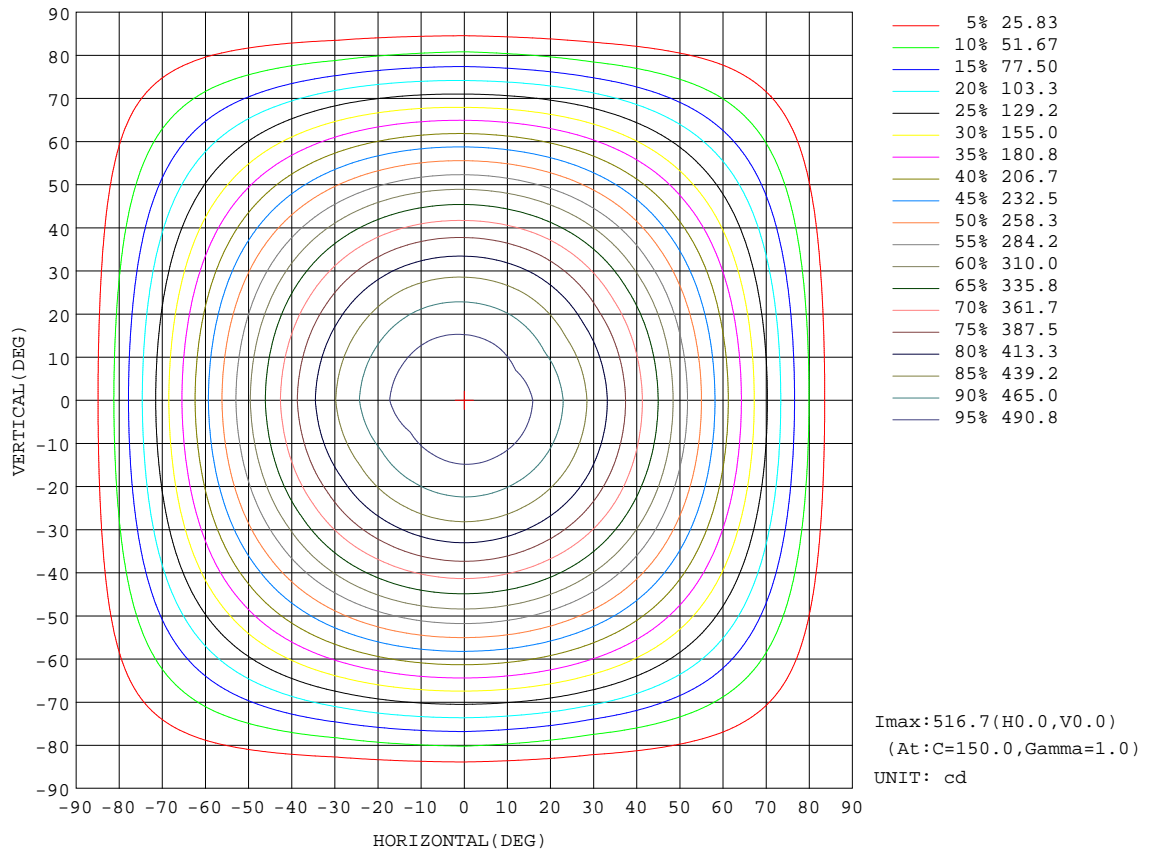
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	58	46	39	57	46	39	56	45	39	33
0.80	68	56	49	67	56	49	65	55	48	41
1.00	76	65	58	75	65	58	73	66	57	50
1.25	83	73	66	82	72	65	79	71	65	57
1.50	88	78	72	87	78	71	84	76	70	62
2.00	95	87	80	93	85	80	90	83	78	70
2.50	99	91	85	97	90	84	93	87	83	74
3.00	102	96	90	100	94	89	96	91	87	78
4.00	106	101	96	104	99	95	100	96	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:2018-12-22

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:240.4V I:0.0700A P:15.80W PF:0.9340 Lamp Flux:1442.21x1 lm		
NAME: CP16W-WW	TYPE:16W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.065	PROTECTION ANGLE:

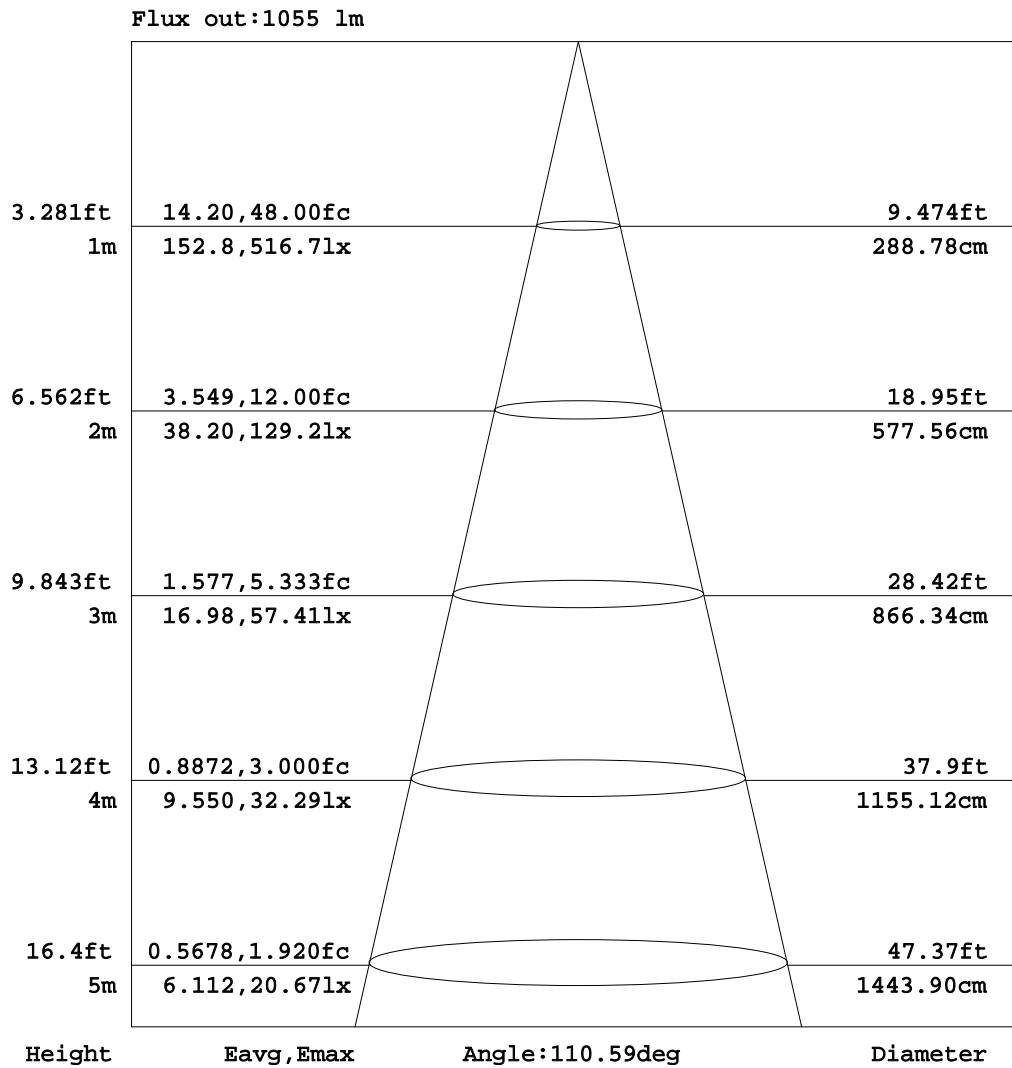


C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2018-12-22

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:240.4V I:0.0700A P:15.80W PF:0.9340 Lamp Flux:1442.2lx1 lm		
NAME: CP16W-WW	TYPE:16W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.065	PROTECTION ANGLE:



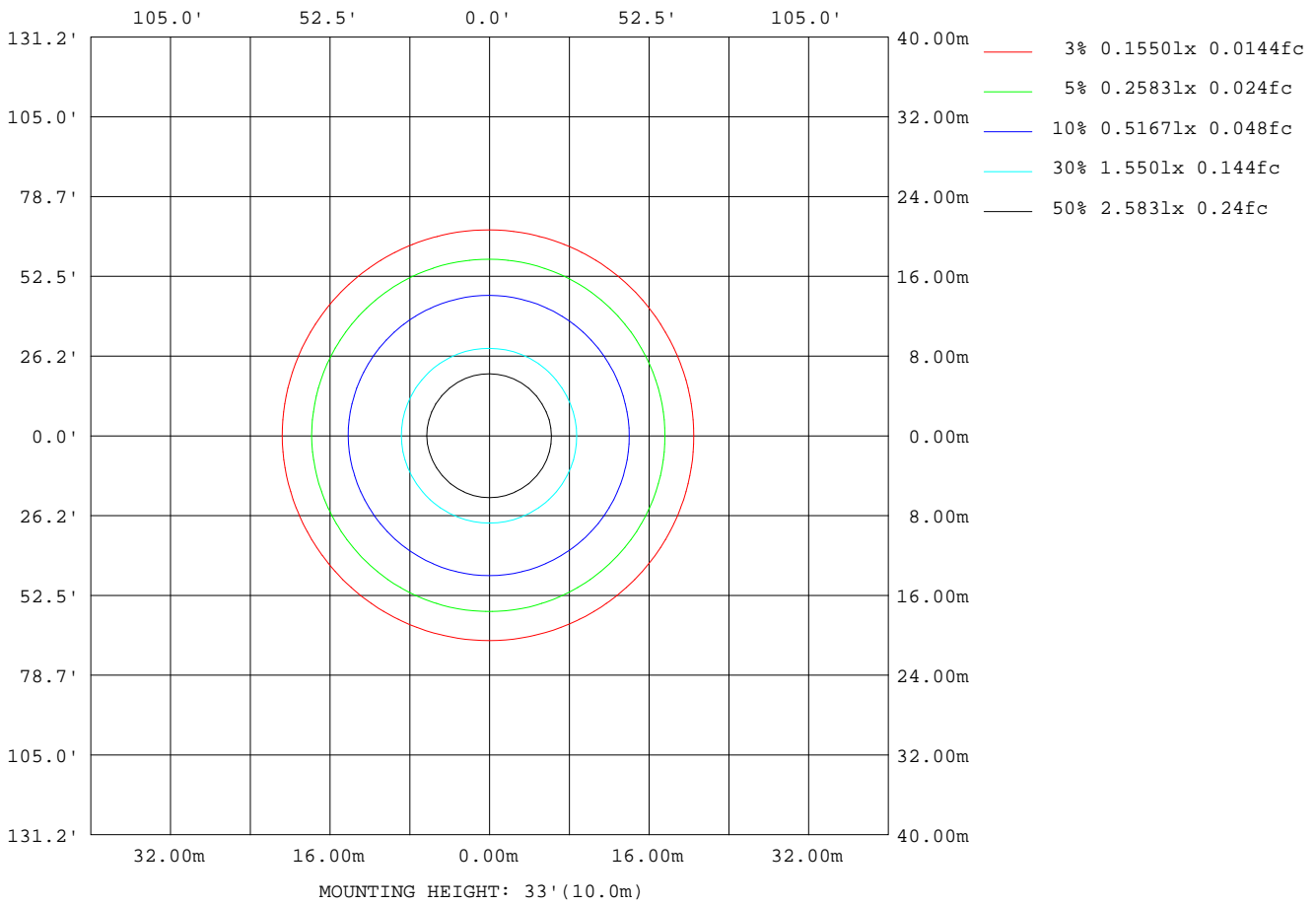
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-12-22

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

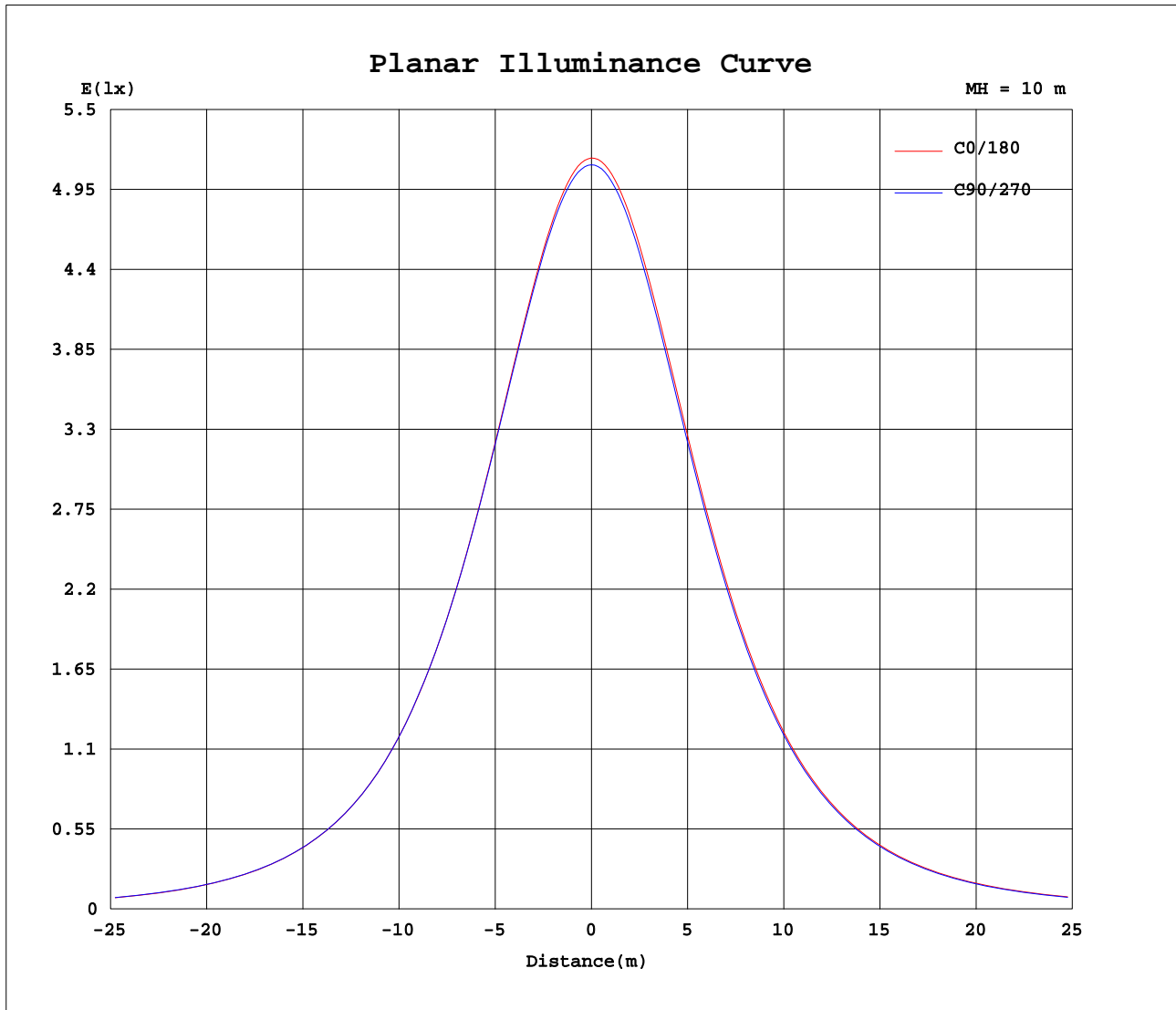
Test:U:240.4V I:0.0700A P:15.80W PF:0.9340 Lamp Flux:1442.21x1 lm		
NAME: CP16W-WW	TYPE:16W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.065	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-12-22

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: 2018-12-22

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:240.4V I:0.0700A P:15.80W PF:0.9340 Lamp Flux:1442.21x1 lm		
NAME: CP16W-WW	TYPE:16W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.065	PROTECTION ANGLE:

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330							
0	513	513	513	513	513	513	513	513	513	513	513	513							
5	510	510	510	510	510	511	511	511	511	511	511	510							
10	502	503	503	503	503	504	505	504	504	504	504	503							
15	490	490	490	491	492	493	494	493	493	492	492	491							
20	473	474	474	475	475	477	478	477	477	476	476	474							
25	453	453	454	455	455	457	459	458	458	456	456	454							
30	428	429	429	431	431	433	435	434	434	432	432	430							
35	400	401	401	403	403	406	407	406	406	405	404	401							
40	368	369	369	371	372	375	376	375	375	373	373	370							
45	333	333	335	336	337	339	341	341	340	339	337	335							
50	296	296	297	298	300	303	305	304	303	302	301	298							
55	256	257	258	259	261	264	266	265	264	263	261	259							
60	215	216	217	218	220	223	225	224	224	222	221	218							
65	173	174	174	176	177	181	183	182	182	180	179	176							
70	131	132	132	134	135	139	141	140	140	138	137	133							
75	89.4	89.4	87.7	92.3	92.0	96.7	99.7	98.5	97.2	96.5	93.7	91.8							
80	50.8	48.0	45.2	53.4	50.6	56.7	60.5	58.3	53.8	57.6	51.7	52.7							
85	16.4	16.5	16.0	18.7	18.5	22.4	25.1	24.4	22.3	22.7	19.9	18.7							
90	0.54	0.54	0.53	0.52	0.50	0.54	0.93	0.88	0.81	0.68	0.65	0.69							

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-12-22
 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: