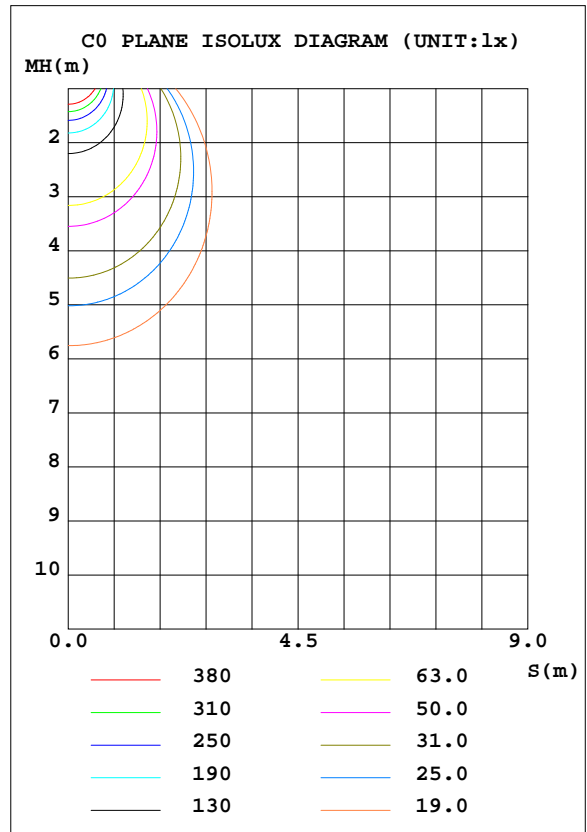
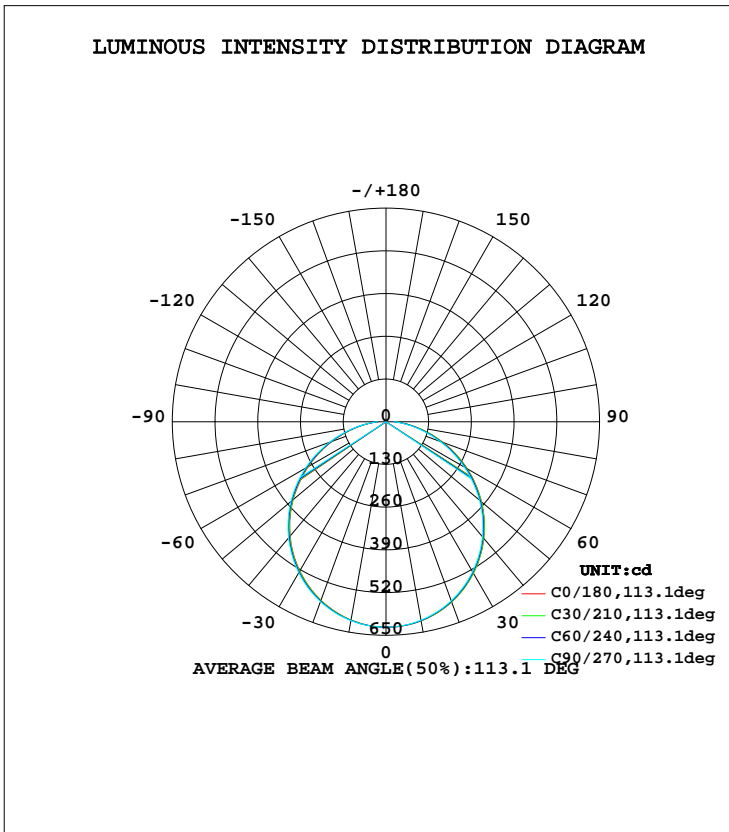


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:240.1V I:0.0830A P:18.10W PF:0.9040 Lamp Flux:1832.3x1 lm		
NAME: OY18W-CC	TYPE:18W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.15	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 101.23 lm/W			
MODEL	OY18W-CC	I _{max} (cd)	625.2	S/MH(C0/180)	1.27
NOMINAL POWER(W)	18	LOR(%)	100.0	S/MH(C90/270)	1.25
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	1832.3	η UP, DN(C0-180)	0.0, 49.9
NOMINAL FLUX(lm)	1832.3	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 50.1
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	240.1	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:2018-12-25

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	lum, lamp
10	615.4	614.6	613.4	612.5	612.7	613.4	614.5	615.4	0- 10	59.14	59.14	3.23,3.23
20	583.7	582.6	580.1	578.4	578.5	580.1	582.4	584.0	10- 20	169.4	228.5	12.5,12.5
30	532.2	530.3	526.9	524.6	524.7	527.1	530.6	532.6	20- 30	256.8	485.4	26.5,26.5
40	463.0	460.7	456.3	453.7	453.8	456.8	461.4	463.7	30- 40	310.1	795.4	43.4,43.4
50	379.5	376.6	371.5	368.6	369.0	372.5	377.7	380.3	40- 50	322.5	1118	61,61
60	284.9	280.9	275.0	272.6	273.1	277.1	283.0	285.4	50- 60	292.8	1411	77,77
70	185.4	181.0	175.1	172.8	174.4	177.5	182.9	185.7	60- 70	226.8	1637	89.4,89.4
80	91.52	88.03	82.81	81.76	83.41	84.78	88.56	91.26	70- 80	138.8	1776	96.9,96.9
90	25.92	25.22	24.93	22.93	22.97	24.57	26.52	26.43	80- 90	56.03	1832	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		

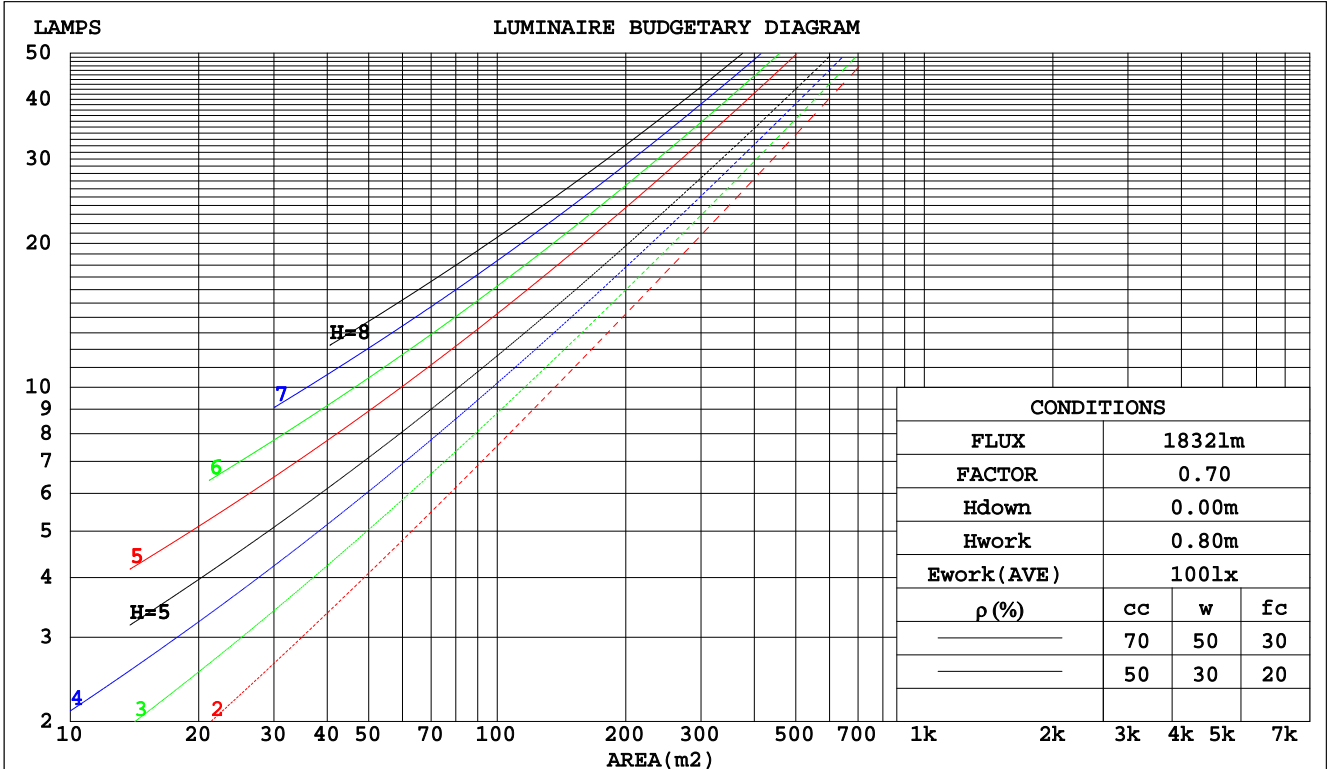
C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-12-25

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:240.1V I:0.0830A P:18.10W PF:0.9040 Lamp Flux:1832.3x1 lm		
NAME: OY18W-CC	TYPE:18W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.15	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	.00
1.0	1.03	.99	.94	1.01	.97	.93	.97	.93	.90	.93	.90	.87	.89	.87	.85	.82
2.0	.90	.82	.76	.88	.81	.76	.84	.79	.74	.81	.76	.72	.78	.74	.70	.68
3.0	.78	.70	.63	.77	.69	.63	.74	.67	.62	.71	.65	.61	.68	.64	.59	.57
4.0	.69	.60	.54	.68	.60	.53	.65	.58	.52	.63	.57	.52	.61	.55	.51	.49
5.0	.62	.53	.46	.61	.52	.46	.59	.51	.45	.57	.50	.45	.55	.49	.44	.42
6.0	.56	.47	.40	.55	.46	.40	.53	.45	.40	.51	.44	.39	.50	.44	.39	.37
7.0	.50	.42	.35	.50	.41	.35	.48	.40	.35	.47	.40	.35	.45	.39	.34	.32
8.0	.46	.37	.31	.45	.37	.31	.44	.37	.31	.43	.36	.31	.42	.35	.31	.29
9.0	.42	.34	.28	.42	.34	.28	.40	.33	.28	.39	.33	.28	.38	.32	.28	.26
10.0	.39	.31	.26	.38	.31	.26	.37	.30	.25	.36	.30	.25	.36	.30	.25	.23



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2018-12-25

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:240.1V I:0.0830A P:18.10W PF:0.9040 Lamp Flux:1832.3x1 lm		
NAME: OY18W-CC	TYPE:18W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.15	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	.325	.185	.059	.318	.181	.058	.305	.175	.056	.292	.169	.054	.281	.163	.053	
2.0	.301	.165	.051	.294	.162	.050	.283	.157	.049	.272	.152	.048	.262	.148	.047	
3.0	.276	.147	.044	.270	.145	.044	.260	.141	.043	.250	.137	.042	.241	.134	.041	
4.0	.253	.132	.039	.249	.130	.038	.239	.127	.038	.231	.124	.037	.223	.121	.037	
5.0	.234	.119	.034	.229	.118	.034	.221	.115	.034	.213	.113	.033	.206	.110	.033	
6.0	.216	.108	.031	.212	.107	.031	.205	.105	.031	.198	.103	.030	.192	.101	.030	
7.0	.201	.099	.028	.197	.098	.028	.191	.096	.028	.185	.095	.028	.179	.093	.027	
8.0	.187	.092	.026	.184	.091	.026	.178	.089	.025	.173	.088	.025	.168	.086	.025	
9.0	.175	.085	.024	.173	.084	.024	.167	.083	.023	.162	.081	.023	.158	.080	.023	
10.0	.165	.079	.022	.162	.078	.022	.158	.077	.022	.153	.076	.022	.149	.075	.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	.181	.156	.133	.155	.134	.115	.106	.092	.079	.061	.053	.046	.020	.017	.015	
2.0	.173	.132	.097	.149	.114	.084	.102	.079	.058	.059	.046	.034	.019	.015	.011	
3.0	.166	.114	.073	.142	.099	.064	.097	.069	.045	.056	.040	.026	.018	.013	.009	
4.0	.158	.101	.058	.135	.087	.050	.093	.061	.035	.054	.036	.021	.017	.012	.007	
5.0	.150	.091	.047	.129	.078	.041	.089	.055	.029	.052	.032	.017	.017	.011	.006	
6.0	.143	.082	.039	.123	.071	.034	.085	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.136	.075	.033	.117	.065	.029	.081	.046	.020	.047	.027	.012	.015	.009	.004	
8.0	.130	.070	.028	.112	.060	.025	.077	.042	.018	.045	.025	.011	.015	.008	.003	
9.0	.123	.065	.025	.106	.056	.022	.074	.039	.016	.043	.023	.009	.014	.008	.003	
10.0	.118	.060	.022	.101	.052	.019	.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:2018-12-25

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:240.1V I:0.0830A P:18.10W PF:0.9040 Lamp Flux:1832.3x1 lm										
NAME: OY18W-CC					TYPE:18W			WEIGHT:		
DIM.:					SPEC.:3000K			SERIAL No.:1		
MFR.:					SUR.:0.15			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	20.2	21.8	20.5	22.0	22.2	20.1	21.6	20.3	21.8	22.0
3H	21.9	23.3	22.2	23.5	23.8	21.6	23.1	21.9	23.3	23.5
4H	22.6	23.9	22.9	24.2	24.4	22.3	23.6	22.6	23.9	24.2
6H	23.1	24.4	23.5	24.7	25.0	22.8	24.1	23.1	24.4	24.6
8H	23.4	24.6	23.7	24.9	25.2	23.0	24.2	23.3	24.5	24.8
12H	23.6	24.8	23.9	25.1	25.4	23.2	24.4	23.5	24.7	25.0
4H 2H	20.8	22.2	21.2	22.5	22.7	20.7	22.1	21.0	22.3	22.6
3H	22.7	23.9	23.0	24.2	24.5	22.5	23.7	22.8	24.0	24.3
4H	23.5	24.6	23.9	24.9	25.3	23.3	24.4	23.6	24.7	25.0
6H	24.2	25.2	24.6	25.6	25.9	23.9	24.9	24.3	25.3	25.6
8H	24.6	25.5	25.0	25.8	26.2	24.2	25.1	24.6	25.5	25.9
12H	24.8	25.7	25.3	26.1	26.5	24.4	25.3	24.9	25.7	26.1
8H 4H	23.8	24.7	24.2	25.1	25.5	23.6	24.5	24.0	24.9	25.3
6H	24.7	25.5	25.2	25.9	26.3	24.4	25.2	24.9	25.6	26.0
8H	25.2	25.8	25.6	26.3	26.7	24.8	25.5	25.3	25.9	26.4
12H	25.6	26.2	26.1	26.6	27.1	25.2	25.8	25.7	26.2	26.7
12H 4H	23.8	24.7	24.3	25.1	25.5	23.6	24.5	24.1	24.8	25.3
6H	24.8	25.5	25.3	25.9	26.4	24.5	25.2	25.0	25.6	26.1
8H	25.3	25.9	25.8	26.3	26.8	25.0	25.6	25.5	26.0	26.5
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.2					+ 0.1 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.1 / - 0.3					+ 0.1 / - 0.3				

CIE Pub.117 Corrected 1832 lm Total Lamp Luminous Flux.(8log(F/F0) = 2.1)

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-12-25

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:240.1V I:0.0830A P:18.10W PF:0.9040 Lamp Flux:1832.3x1 lm		
NAME: OY18W-CC	TYPE:18W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.15	PROTECTION ANGLE:

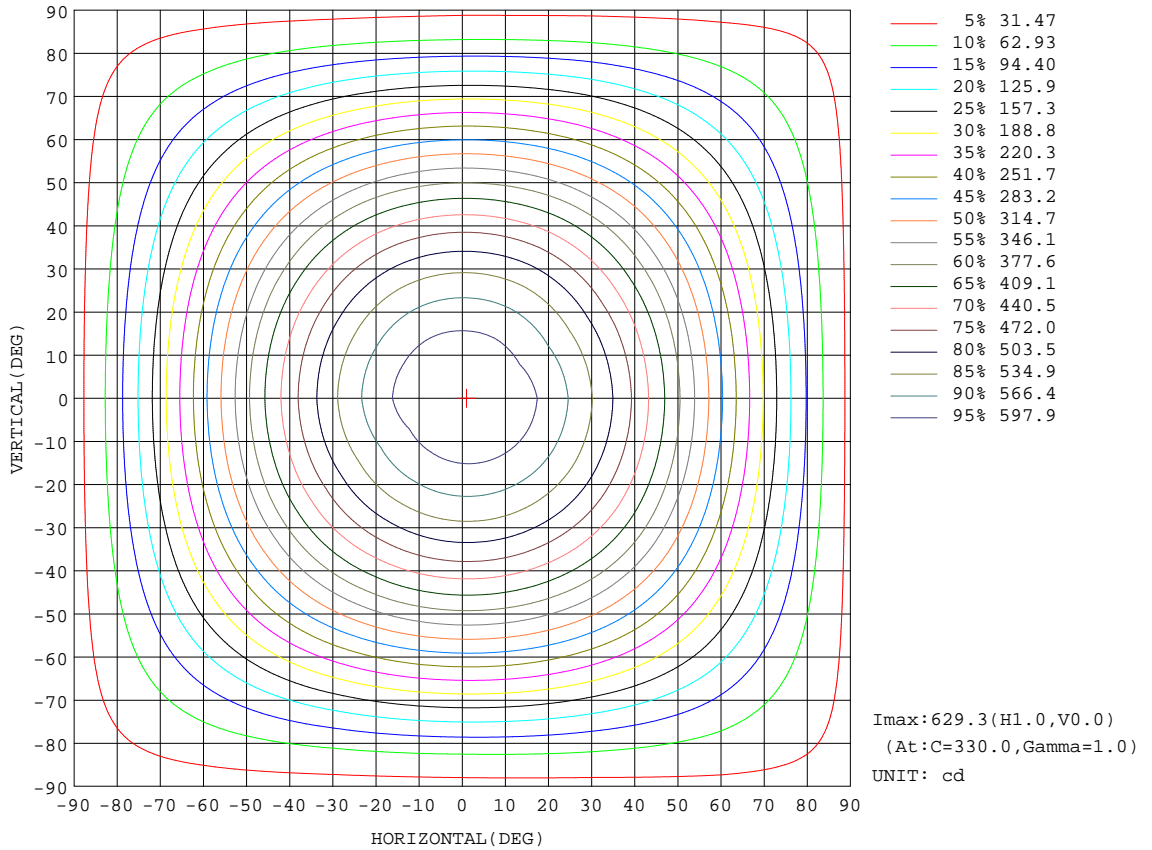
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	57	45	38	56	45	38	55	44	38	31
0.80	67	55	48	66	55	47	64	54	47	40
1.00	75	64	56	74	63	56	72	65	56	48
1.25	82	72	64	81	71	64	78	69	63	56
1.50	87	77	70	86	76	69	82	74	68	61
2.00	94	85	79	92	84	78	89	82	76	68
2.50	98	90	84	96	89	83	92	86	81	73
3.00	101	94	89	99	93	88	95	90	85	77
4.00	106	100	95	103	98	93	99	94	91	82
5.00	108	103	99	106	101	97	101	97	94	85
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:2018-12-25

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:240.1V I:0.0830A P:18.10W PF:0.9040 Lamp Flux:1832.3x1 lm		
NAME: OY18W-CC	TYPE:18W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.15	PROTECTION ANGLE:

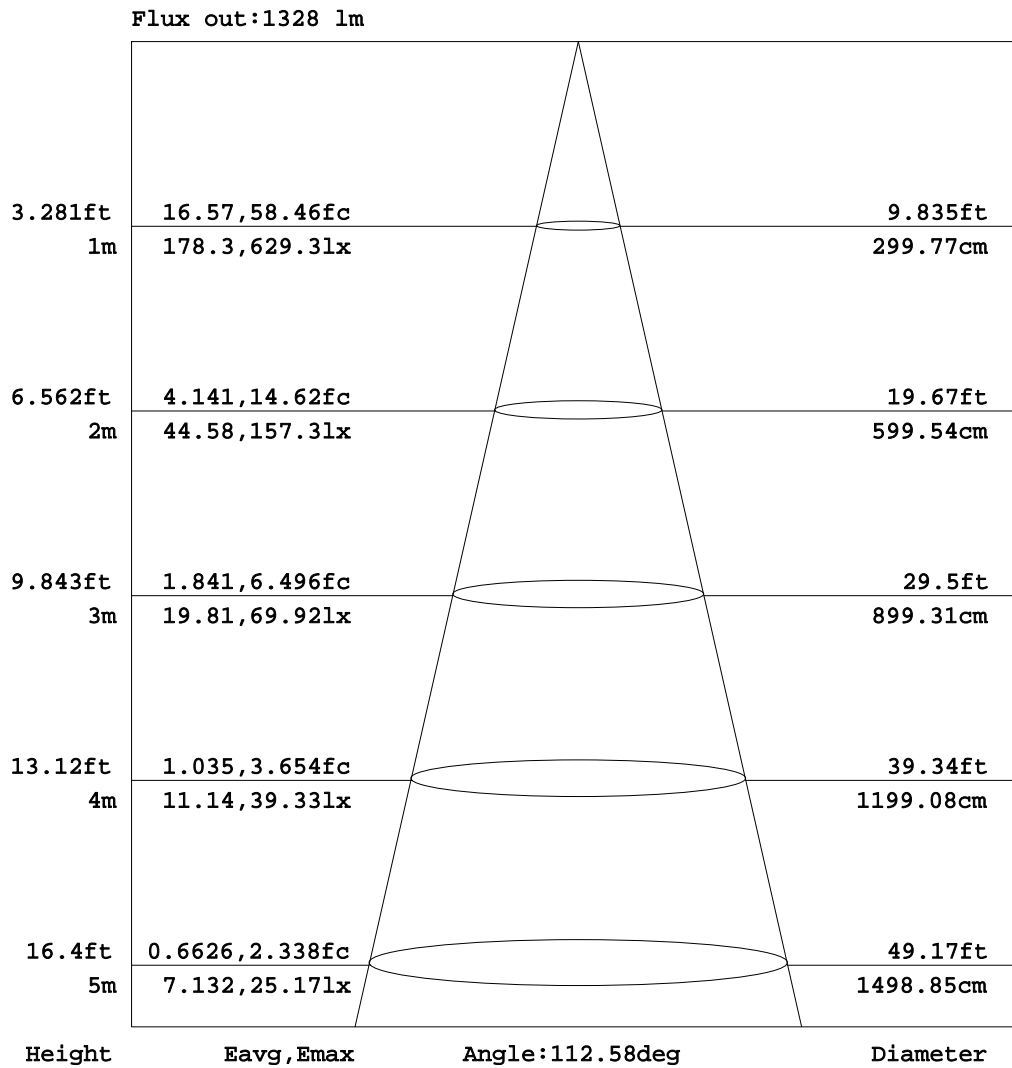


C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-12-25

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:240.1V I:0.0830A P:18.10W PF:0.9040 Lamp Flux:1832.3x1 lm		
NAME: OY18W-CC	TYPE:18W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.15	PROTECTION ANGLE:



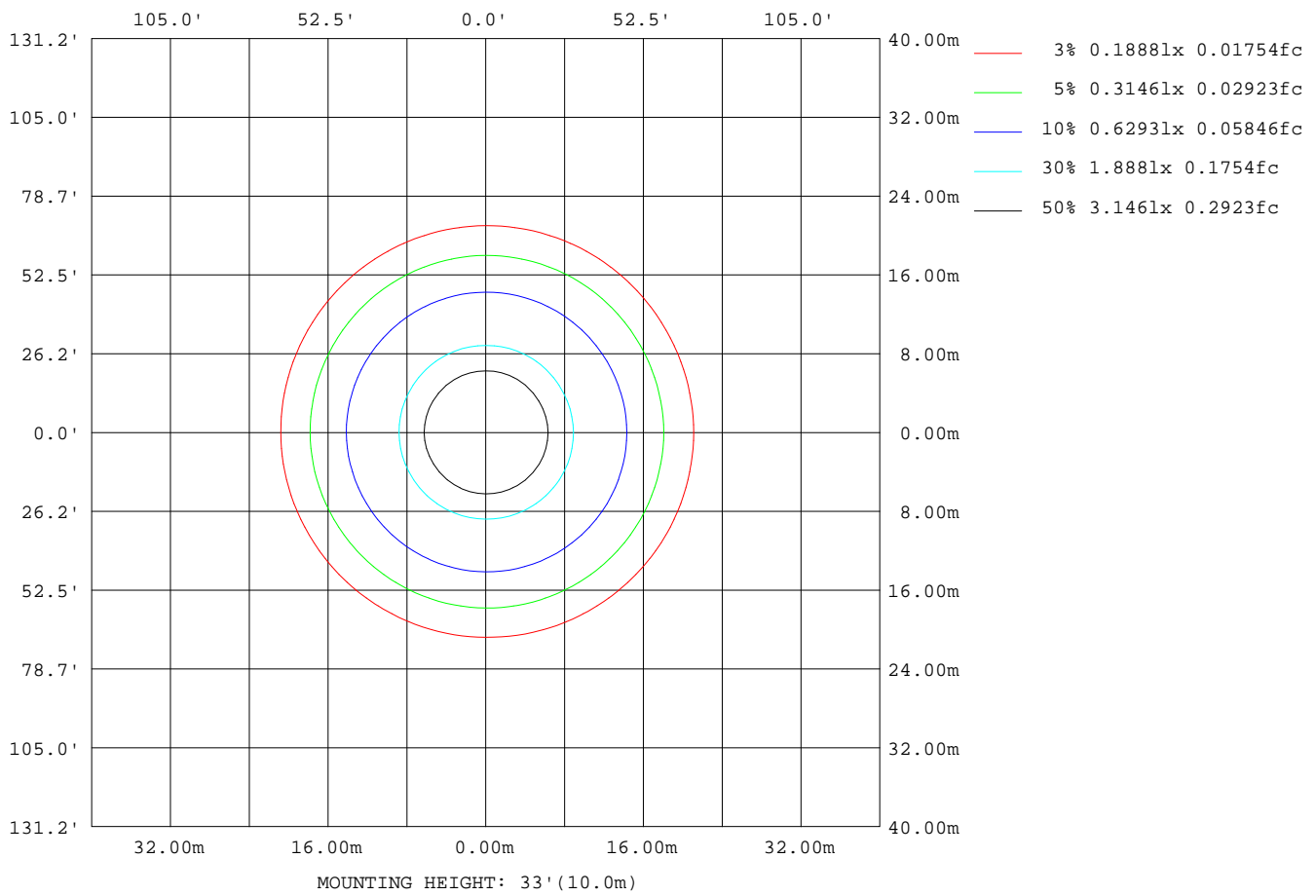
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2018-12-25

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

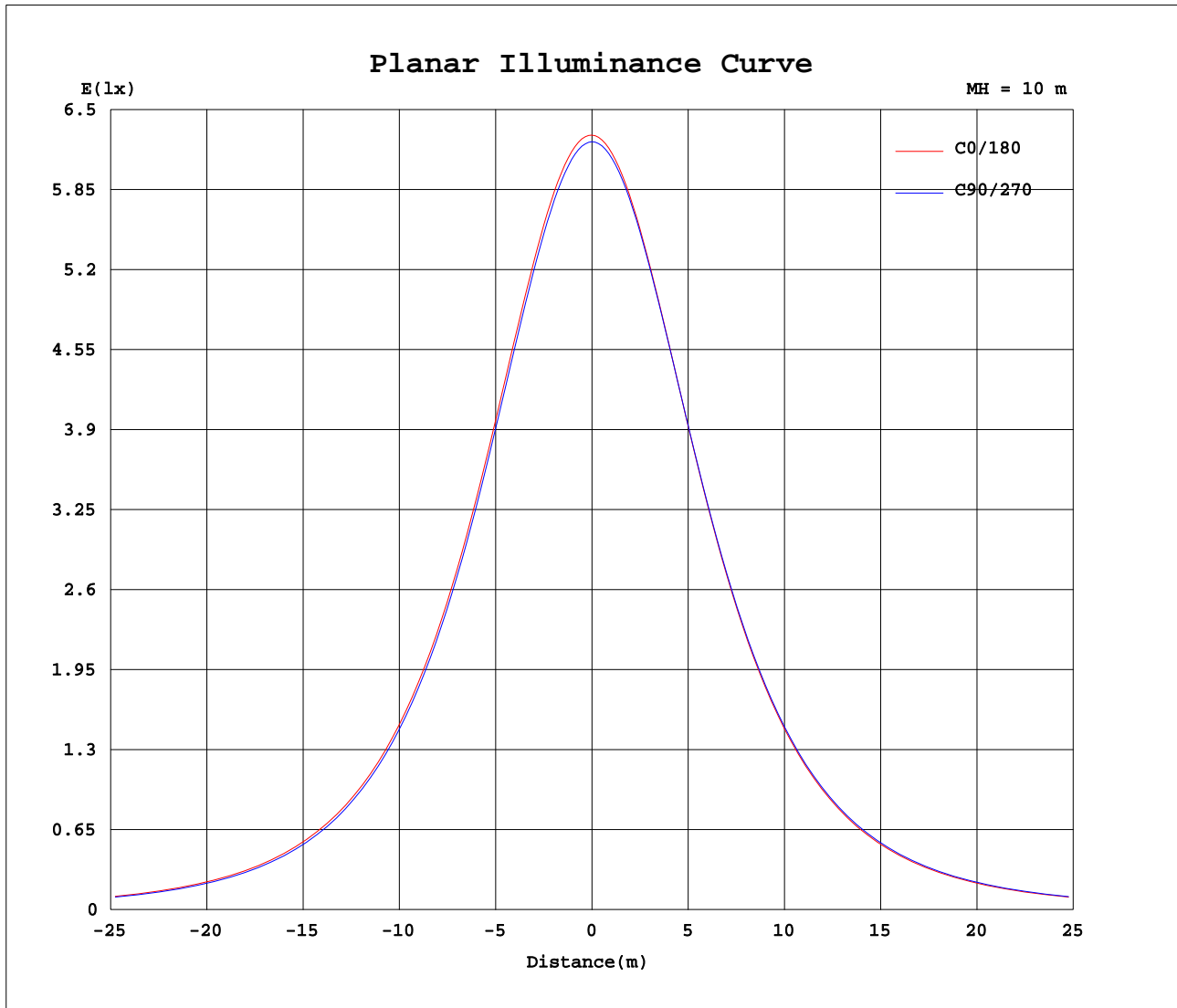
Test:U:240.1V I:0.0830A P:18.10W PF:0.9040 Lamp Flux:1832.3x1 lm		
NAME: OY18W-CC	TYPE:18W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.15	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-12-25

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: 2018-12-25

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:240.1V I:0.0830A P:18.10W PF:0.9040 Lamp Flux:1832.3x1 lm		
NAME: OY18W-CC	TYPE:18W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.15	PROTECTION ANGLE:

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330							
0	625	625	625	625	625	625	625	625	625	625	625	625							
5	623	623	622	622	622	622	622	622	622	623	623	623							
10	615	615	614	613	613	613	613	613	614	615	616	615							
15	602	602	600	599	598	598	598	599	600	601	602	602							
20	584	584	582	580	578	578	578	579	581	582	584	584							
25	560	560	558	556	554	554	554	555	557	559	561	561							
30	532	532	529	527	524	525	525	526	529	531	533	532							
35	500	499	496	494	491	491	491	492	496	498	500	500							
40	463	463	459	456	453	454	454	455	459	461	464	464							
45	423	422	418	416	412	413	413	414	418	421	424	423							
50	380	379	374	371	368	369	369	370	375	378	381	380							
55	333	331	328	324	321	321	322	324	327	331	333	334							
60	285	283	279	275	272	273	273	275	279	283	285	285							
65	235	233	229	225	222	223	224	225	229	233	236	236							
70	185	184	178	175	172	174	174	176	179	183	186	186							
75	136	135	130	127	124	126	127	127	131	134	137	136							
80	91.5	90.3	85.7	82.8	80.8	82.7	83.4	83.4	86.2	88.6	91.3	91.2							
85	53.1	53.2	49.8	46.5	45.4	46.5	47.3	46.6	48.0	50.3	52.2	52.4							
90	25.9	25.7	24.8	24.9	23.4	22.5	23.0	24.3	24.8	26.5	26.9	26.0							

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:2018-12-25	Remarks: