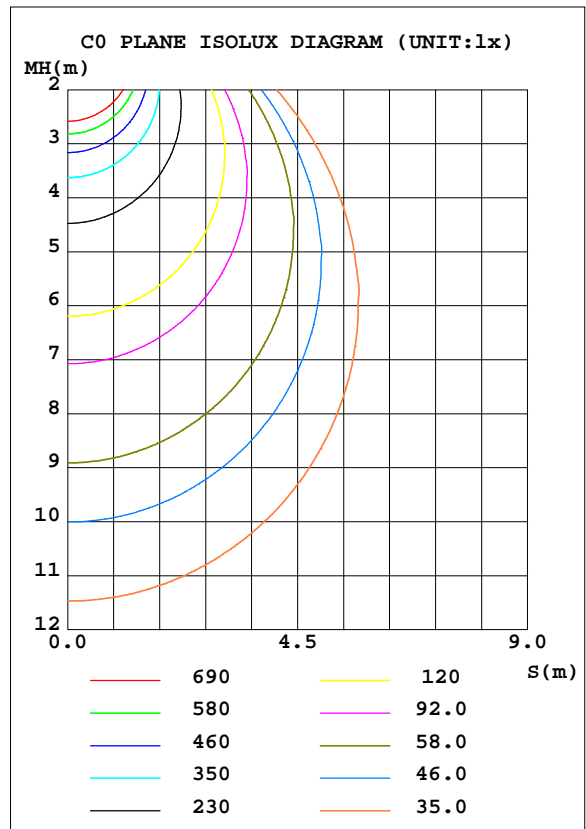
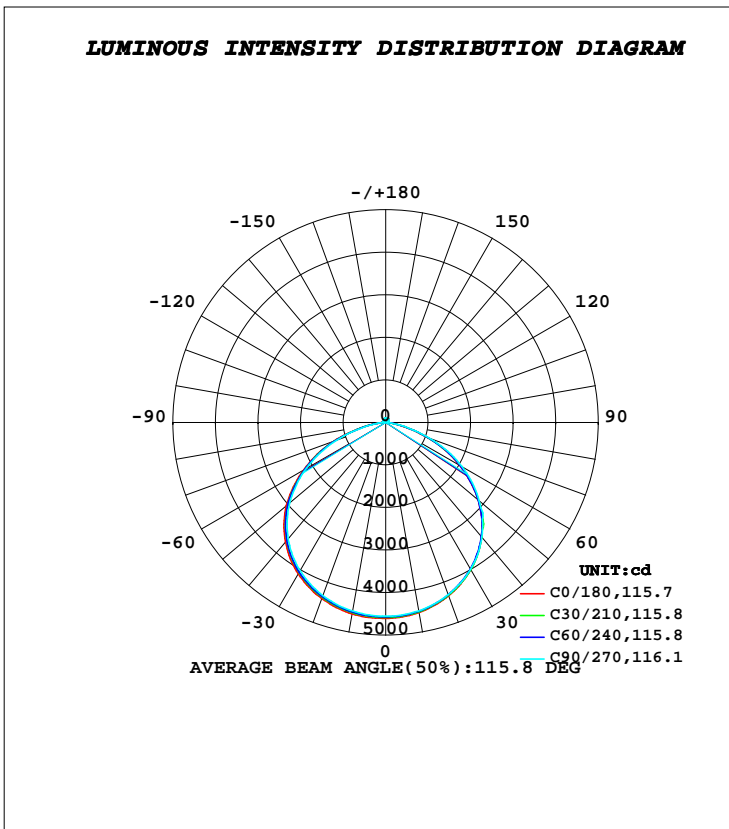


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:221.30V I:0.4290A P:93.300W PF:0.9820 Freq:50.00Hz Lamp Flux:13704.6x1 lm		
NAME: UFO100-QW-210SMD	TYPE:LED	
MFR.:		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 146.89 lm/W			
MODEL		I _{max} (cd)	4603	S/MH(C0/180)	1.29
NOMINAL POWER(W)	100	LOR(%)	100.0	S/MH(C90/270)	1.30
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	13705	η UP, DN(C0-180)	1.5,47.4
NOMINAL FLUX(lm)	13704.6	CIE CLASS	DIRECT	η UP, DN(C180-360)	1.5,49.5
LAMPS INSIDE	1	η up(%)	3.1	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	220	η down(%)	96.9	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2018-12-11

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.406.11
Humidity:65.0%
Test Distance:8.000m [K=0.7063]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

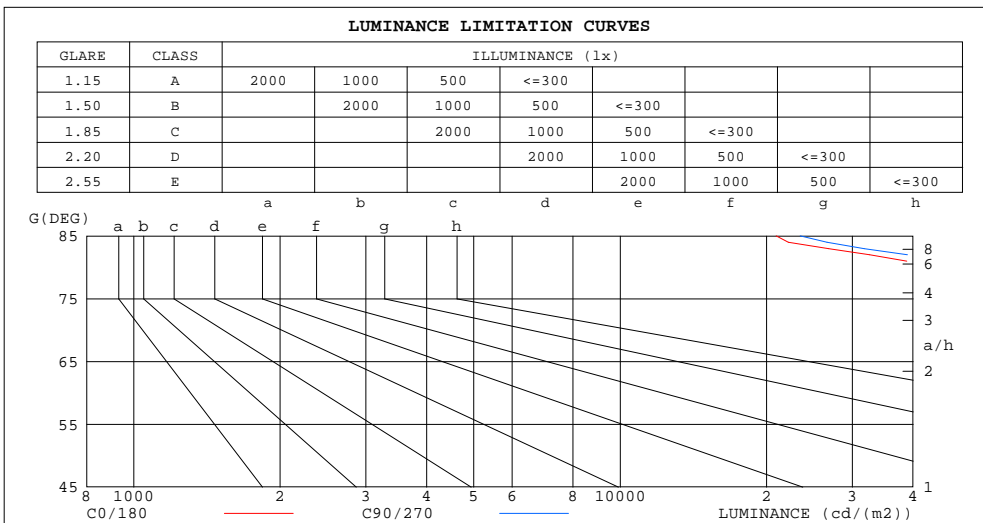
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	4536	4514	4499	4482	4568	4533	4501	4481	0- 10	433.2	433.2	3.16,3.16
20	4334	4315	4305	4298	4402	4367	4330	4308	10- 20	1253	1686	12.3,12.3
30	3994	3989	3990	3984	4112	4071	4023	4002	20- 30	1932	3619	26.4,26.4
40	3506	3508	3520	3519	3663	3621	3570	3542	30- 40	2381	5999	43.8,43.8
50	2838	2846	2875	2885	3053	3005	2947	2920	40- 50	2514	8513	62.1,62.1
60	1999	2021	2068	2078	2226	2190	2145	2115	50- 60	2256	10769	78.6,78.6
70	1052	1068	1109	1140	1320	1285	1238	1205	60- 70	1633	12402	90.5,90.5
80	228.5	241.2	271.8	289.0	413.4	383.7	355.9	336.5	70- 80	753.1	13155	96,96
90	35.10	34.66	34.08	33.71	43.26	40.61	39.14	39.01	80- 90	129.2	13284	96.9,96.9
100	45.26	44.71	44.00	43.46	45.39	45.31	45.53	45.59	90-100	44.18	13328	97.3,97.3
110	56.78	56.22	55.49	54.84	54.78	54.79	55.02	55.10	100-110	52.81	13381	97.6,97.6
120	68.17	67.55	66.80	66.12	65.57	65.33	65.49	65.56	110-120	60.35	13442	98.1,98.1
130	77.92	77.29	76.40	75.86	74.56	74.24	74.31	74.27	120-130	63.67	13505	98.5,98.5
140	86.29	85.75	85.00	84.28	82.03	81.63	81.55	81.54	130-140	61.52	13567	99,99
150	94.31	93.79	93.05	92.39	89.45	88.97	88.82	88.74	140-150	54.71	13621	99.4,99.4
160	102.4	101.7	101.0	100.4	97.74	97.02	96.75	96.69	150-160	43.91	13665	99.7,99.7
170	108.7	108.1	107.4	106.7	105.6	104.8	104.4	104.1	160-170	29.04	13694	99.9,99.9
180	108.6	108.2	107.7	107.1	109.1	108.2	107.5	107.2	170-180	10.23	13705	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2018-12-11

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.406.11
Humidity:65.0%
Test Distance:8.000m [K=0.7063]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:221.30V I:0.4290A P:93.300W PF:0.9820 Freq:50.00Hz Lamp Flux:13704.6x1 lm		
NAME: UFO100-QW-210SMD	TYPE:LED	
MFR.:		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	20937	23459
80	43863	52169
75	75979	82746
70	102502	108098
65	122248	127138
60	133272	137855
55	141434	144576
50	147193	149114
45	151750	151879

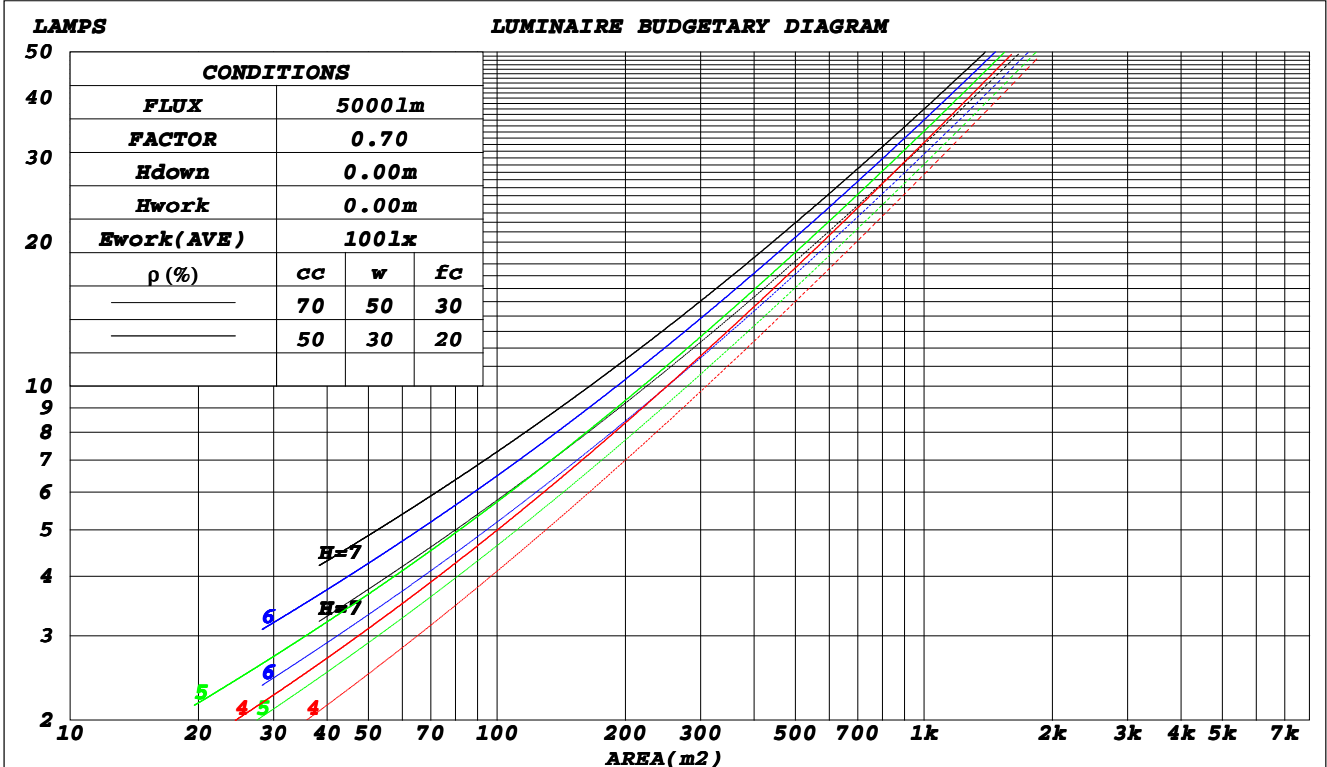
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2018-12-11

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.406.11
Humidity: 65.0%
Test Distance: 8.000m [K=0.7063]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:221.30V I:0.4290A P:93.300W PF:0.9820 Freq:50.00Hz Lamp Flux:13704.6x1 lm		
NAME: UFO100-QW-210SMD	TYPE:LED	
MFR.:		

ρcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρw	0															
ρfc	0															
RCR	RCR:Room Cavity Ratio															
	Coefficients of Utilization(CU)															
0.0	1.18	1.18	1.18	1.15	1.15	1.15	1.09	1.09	1.09	1.04	1.04	1.04	.99	.99	.99	.97
1.0	1.04	.90	.96	1.01	.98	.94	.97	.94	.91	.92	.90	.88	.88	.86	.84	.82
2.0	.91	.84	.79	.89	.83	.77	.85	.80	.75	.81	.77	.73	.77	.74	.71	.69
3.0	.80	.72	.65	.78	.71	.65	.75	.68	.63	.71	.66	.62	.68	.64	.60	.58
4.0	.71	.62	.55	.69	.61	.55	.66	.59	.54	.63	.57	.53	.61	.56	.52	.49
5.0	.63	.54	.47	.62	.53	.47	.59	.52	.46	.57	.51	.45	.55	.49	.45	.43
6.0	.57	.48	.41	.55	.47	.41	.53	.46	.40	.51	.45	.40	.50	.44	.39	.37
7.0	.51	.43	.36	.50	.42	.36	.48	.41	.36	.47	.40	.35	.45	.39	.35	.33
8.0	.47	.38	.32	.46	.38	.32	.44	.37	.32	.43	.36	.31	.41	.35	.31	.29
9.0	.43	.35	.29	.42	.34	.29	.41	.34	.29	.39	.33	.28	.38	.32	.28	.26
10.0	.39	.32	.26	.39	.31	.26	.38	.31	.26	.36	.30	.26	.35	.30	.25	.24



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2018-12-11

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.406.11
 Humidity: 65.0%
 Test Distance: 8.000m [K=0.7063]
 Remarks:

WEC AND CCEC

Test:U:221.30V I:0.4290A P:93.300W PF:0.9820 Freq:50.00Hz Lamp Flux:13704.6x1 lm		
NAME: UFO100-QW-210SMD	TYPE:LED	
MFR.:		

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.294	.167	.053	.286	.163	.052	.271	.155	.050	.257	.148	.048	.244	.142	.046	
2.0	.281	.154	.047	.274	.151	.047	.261	.145	.045	.249	.140	.044	.238	.134	.042	
3.0	.263	.140	.042	.257	.137	.041	.245	.133	.040	.234	.128	.039	.224	.124	.038	
4.0	.244	.127	.037	.239	.125	.037	.228	.121	.036	.218	.117	.035	.209	.114	.035	
5.0	.227	.115	.033	.222	.114	.033	.212	.111	.033	.204	.107	.032	.195	.104	.031	
6.0	.211	.106	.030	.206	.104	.030	.198	.101	.030	.190	.099	.029	.183	.096	.029	
7.0	.197	.097	.028	.193	.096	.027	.185	.094	.027	.178	.091	.027	.171	.089	.026	
8.0	.184	.090	.025	.180	.089	.025	.173	.087	.025	.167	.085	.024	.161	.083	.024	
9.0	.173	.083	.023	.169	.083	.023	.163	.081	.023	.157	.079	.023	.152	.077	.022	
10.0	.162	.078	.022	.159	.077	.021	.154	.075	.021	.148	.074	.021	.143	.072	.021	

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.214	.214	.214	.183	.183	.183	.125	.125	.125	.072	.072	.072	.023	.023	.023	
1.0	.203	.180	.159	.173	.154	.137	.119	.106	.095	.068	.061	.055	.022	.020	.018	
2.0	.195	.156	.123	.167	.134	.106	.114	.093	.074	.066	.054	.043	.021	.017	.014	
3.0	.187	.138	.099	.160	.119	.086	.110	.083	.060	.064	.048	.036	.020	.016	.012	
4.0	.180	.125	.083	.154	.108	.072	.106	.075	.051	.061	.044	.030	.020	.014	.010	
5.0	.172	.114	.072	.148	.099	.062	.102	.069	.044	.059	.041	.026	.019	.013	.009	
6.0	.165	.106	.064	.142	.092	.055	.098	.064	.039	.057	.038	.023	.018	.012	.008	
7.0	.159	.099	.058	.137	.086	.050	.094	.060	.036	.055	.036	.021	.018	.012	.007	
8.0	.152	.094	.053	.131	.081	.046	.091	.057	.033	.053	.034	.020	.017	.011	.006	
9.0	.146	.089	.050	.126	.077	.043	.087	.054	.031	.051	.032	.018	.016	.010	.006	
10.0	.141	.084	.047	.121	.073	.041	.084	.052	.029	.049	.030	.017	.016	.010	.006	

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-12-11

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.406.11
 Humidity:65.0%
 Test Distance:8.000m [K=0.7063]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:221.30V I:0.4290A P:93.300W PF:0.9820 Freq:50.00Hz Lamp Flux:13704.6x1 lm										
NAME: UFO100-QW-210SMD					TYPE:LED					
MFR.:										

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	29.9	31.4	30.2	31.6	31.9	30.0	31.4	30.3	31.7	31.9
3H	31.1	32.4	31.4	32.7	33.0	31.2	32.5	31.5	32.8	33.1
4H	31.4	32.6	31.7	32.9	33.3	31.5	32.8	31.9	33.1	33.4
6H	31.4	32.6	31.8	33.0	33.3	31.6	32.8	32.0	33.1	33.5
8H	31.4	32.6	31.8	32.9	33.3	31.6	32.8	32.0	33.1	33.4
12H	31.4	32.5	31.8	32.8	33.2	31.6	32.7	32.0	33.0	33.4
4H 2H	30.4	31.7	30.8	32.0	32.3	30.5	31.7	30.8	32.1	32.4
3H	31.7	32.8	32.1	33.2	33.5	31.8	32.9	32.2	33.3	33.6
4H	32.1	33.1	32.5	33.5	33.9	32.2	33.2	32.6	33.6	34.0
6H	32.2	33.1	32.7	33.5	34.0	32.4	33.3	32.8	33.7	34.1
8H	32.2	33.1	32.7	33.5	33.9	32.4	33.2	32.8	33.6	34.1
12H	32.2	33.0	32.7	33.4	33.9	32.4	33.1	32.8	33.6	34.0
8H 4H	32.2	33.0	32.7	33.4	33.9	32.3	33.1	32.8	33.5	34.0
6H	32.4	33.1	32.9	33.5	34.0	32.5	33.2	33.0	33.7	34.2
8H	32.4	33.0	32.9	33.5	34.0	32.5	33.1	33.1	33.6	34.1
12H	32.4	32.9	32.9	33.4	33.9	32.5	33.0	33.1	33.5	34.1
12H 4H	32.2	32.9	32.6	33.4	33.8	32.3	33.0	32.7	33.5	33.9
6H	32.4	33.0	32.9	33.5	34.0	32.5	33.1	33.0	33.6	34.1
8H	32.4	32.9	32.9	33.4	33.9	32.5	33.0	33.1	33.6	34.1
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
1.5H	+ 0.2 / - 0.4					+ 0.2 / - 0.4				
2.0H	+ 0.3 / - 0.4					+ 0.4 / - 0.4				

CIE Pub.117, 13705 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 9.1)

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2018-12-11

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.406.11
Humidity:65.0%
Test Distance:8.000m [K=0.7063]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:221.30V I:0.4290A P:93.300W PF:0.9820 Freq:50.00Hz Lamp Flux:13704.6x1 lm		
NAME: UFO100-QW-210SMD	TYPE:LED	
MFR.:		

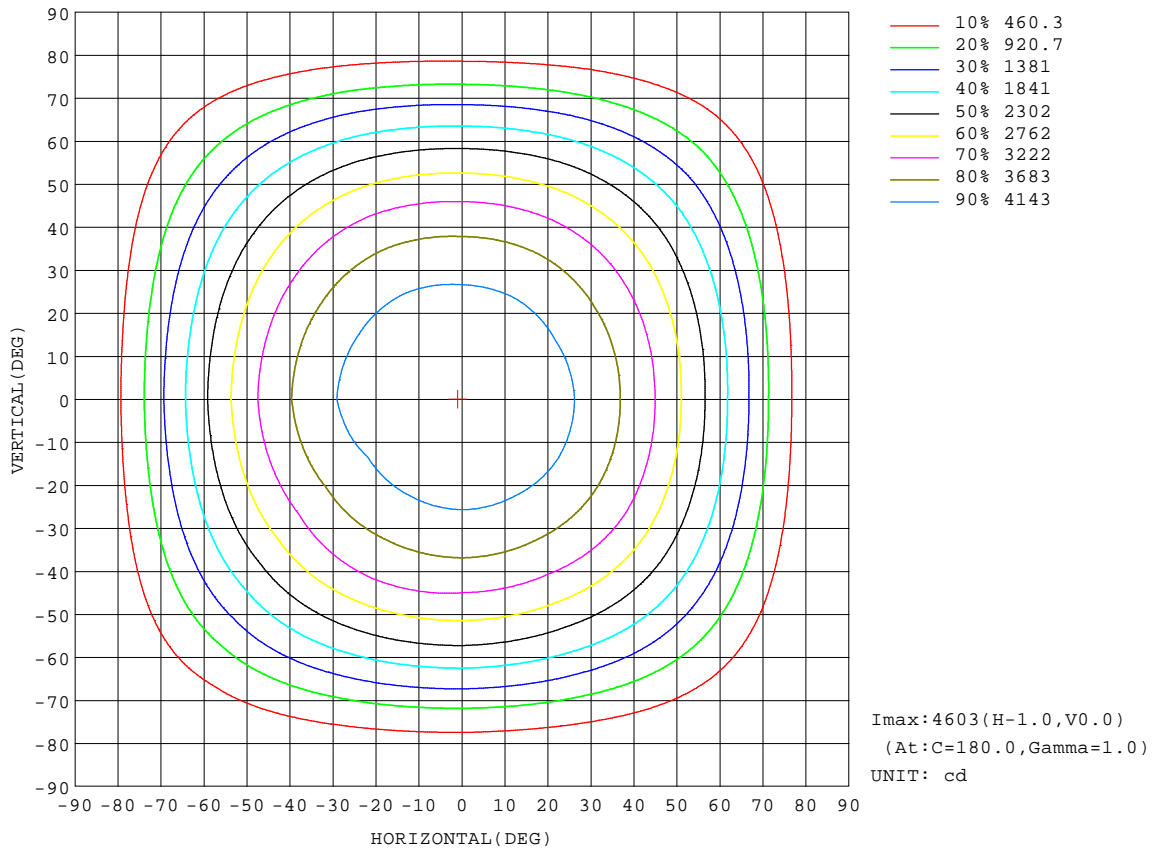
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	57	45	38	56	45	38	55	44	38	31
0.80	67	55	48	66	55	48	64	54	47	40
1.00	76	65	57	74	64	57	72	65	56	49
1.25	83	72	65	81	72	65	78	70	64	56
1.50	88	78	71	86	77	71	83	75	69	61
2.00	95	86	80	93	85	79	89	82	77	69
2.50	99	91	85	96	89	84	92	86	82	73
3.00	102	95	90	100	94	89	95	90	86	77
4.00	106	100	96	103	98	94	99	95	91	82
5.00	108	104	100	106	101	98	101	97	94	84
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNM = 1.25			

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2018-12-11

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.406.11
Humidity:65.0%
Test Distance:8.000m [K=0.7063]
Remarks:

ISOCANDELA DIAGRAM

Test:U:221.30V I:0.4290A P:93.300W PF:0.9820 Freq:50.00Hz Lamp Flux:13704.6x1 lm		
NAME: UFO100-QW-210SMD	TYPE:LED	
MFR.:		



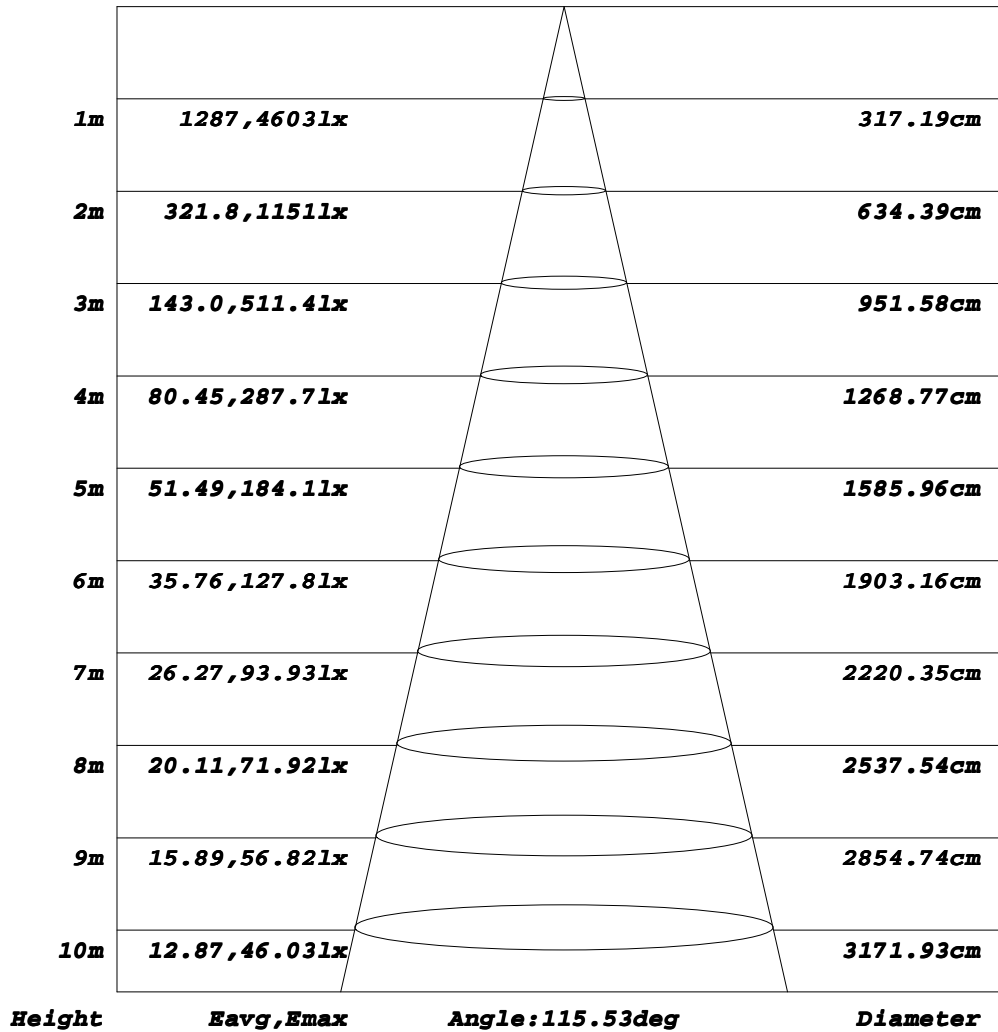
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2018-12-11

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.406.11
Humidity:65.0%
Test Distance:8.000m [K=0.7063]
Remarks:

AAI Figure

Test:U:221.30V I:0.4290A P:93.300W PF:0.9820 Freq:50.00Hz Lamp Flux:13704.6x1 lm		
NAME: UFO100-QW-210SMD	TYPE:LED	
MFR.:		

Flux out:10357 lm



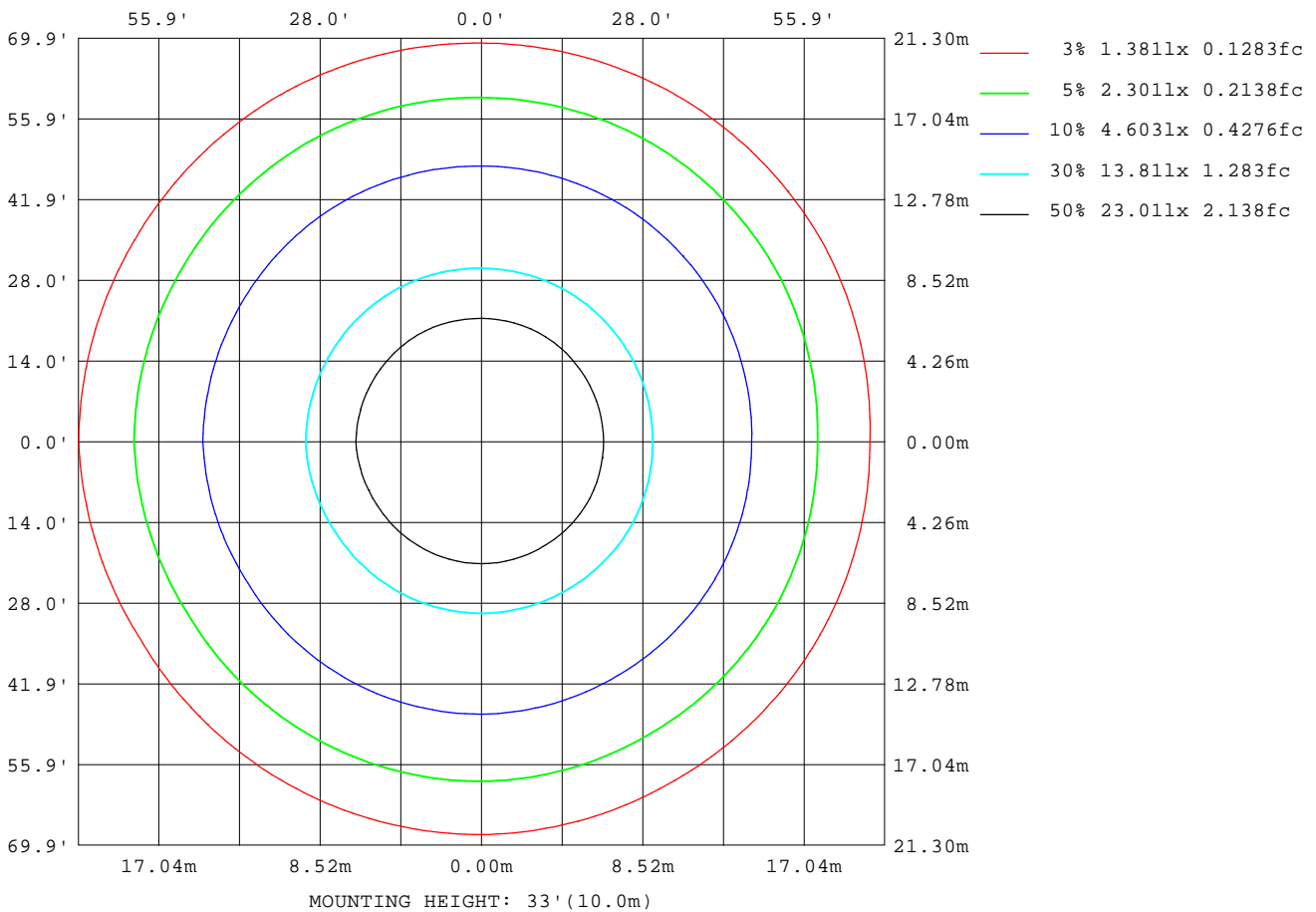
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2018-12-11

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.406.11
Humidity:65.0%
Test Distance:8.000m [K=0.7063]
Remarks:

ISOLUX DIAGRAM

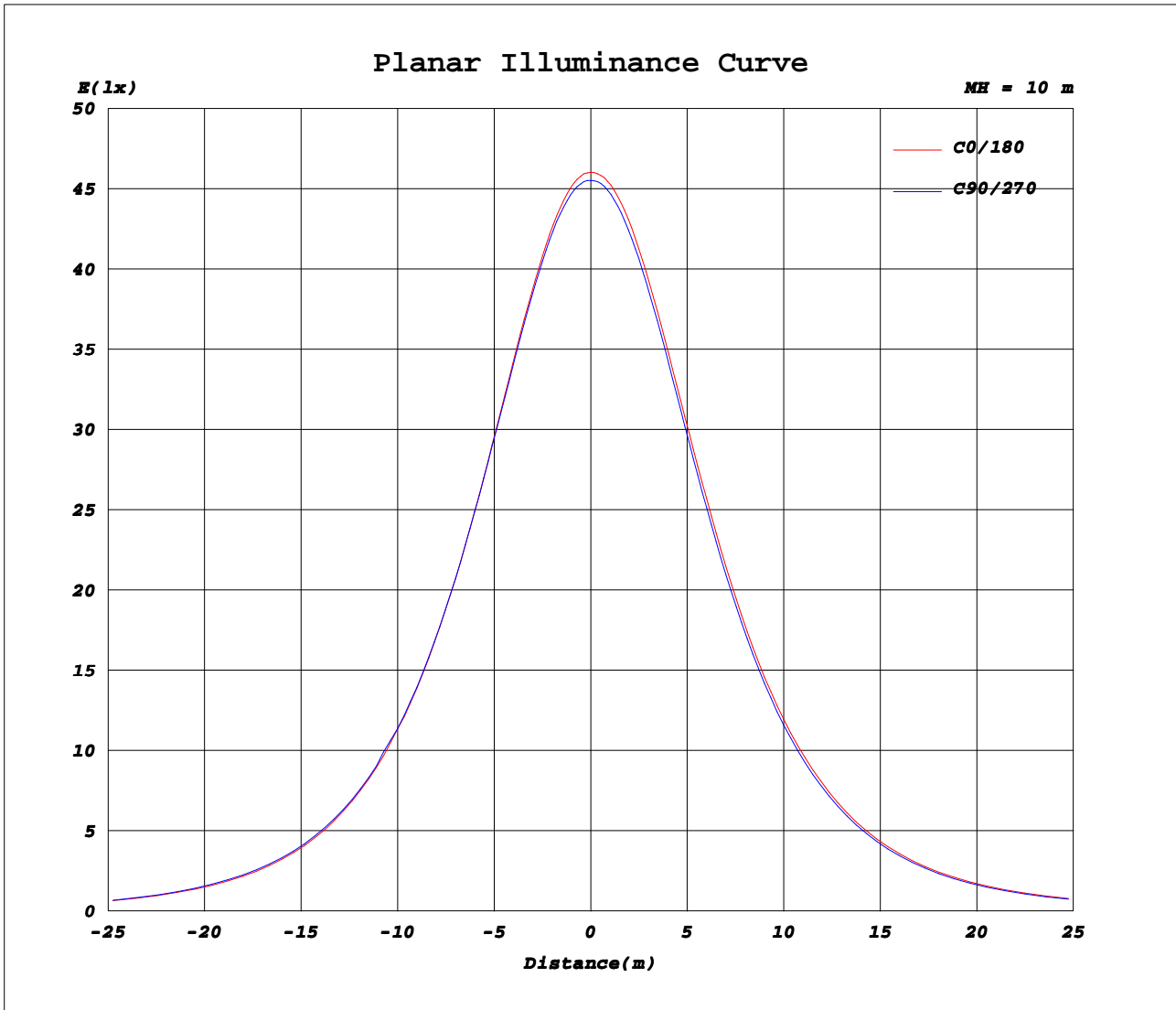
Test:U:221.30V I:0.4290A P:93.300W PF:0.9820 Freq:50.00Hz Lamp Flux:13704.6x1 lm		
NAME: UFO100-QW-210SMD	TYPE:LED	
MFR.:		



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2018-12-11

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.406.11
Humidity: 65.0%
Test Distance: 8.000m [K=0.7063]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2018-12-11

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.406.11
Humidity: 65.0%
Test Distance: 8.000m [K=0.7063]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:221.30V I:0.4290A P:93.300W PF:0.9820 Freq:50.00Hz Lamp Flux:13704.6x1 lm		
NAME: UFO100-QW-210SMD	TYPE:LED	
MFR.:		

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330							
0	4603	4585	4569	4552	4539	4529	4603	4585	4569	4552	4539	4529							
5	4587	4569	4554	4542	4530	4523	4599	4578	4564	4544	4530	4516							
10	4536	4522	4505	4499	4484	4479	4568	4541	4526	4501	4489	4472							
15	4450	4436	4421	4415	4405	4406	4504	4476	4458	4431	4422	4400							
20	4334	4323	4307	4305	4297	4299	4402	4374	4360	4330	4317	4299							
25	4181	4177	4159	4165	4155	4158	4271	4246	4229	4196	4181	4161							
30	3994	4001	3978	3990	3977	3990	4112	4075	4066	4023	4017	3987							
35	3772	3778	3757	3776	3763	3784	3911	3870	3864	3819	3810	3774							
40	3506	3519	3496	3520	3507	3531	3663	3625	3617	3570	3560	3525							
45	3219	3237	3196	3222	3298	3236	3381	3336	3331	3278	3274	3235							
50	2838	2855	2838	2875	2876	2894	3053	3004	3006	2947	2946	2895							
55	2434	2453	2440	2488	2496	2511	2656	2616	2613	2569	2559	2513							
60	1999	2025	2017	2068	2070	2087	2226	2191	2189	2145	2139	2090							
65	1550	1562	1568	1612	1622	1638	1777	1753	1744	1705	1688	1654							
70	1052	1066	1071	1109	1121	1160	1320	1288	1281	1238	1222	1188							
75	590	617	614	642	655	684	814	793	786	746	733	694							
80	229	245	238	272	275	303	413	383	384	356	351	322							
85	54.7	54.9	54.9	61.3	66.5	79.3	132	120	122	106	103	88.0							
90	35.1	34.8	34.6	34.1	33.9	33.5	43.3	40.3	40.9	39.1	39.1	38.9							
95	39.9	39.5	39.3	38.8	38.5	38.1	41.7	41.7	41.6	41.7	41.7	41.9							
100	45.3	44.9	44.5	44.0	43.7	43.3	45.4	45.4	45.2	45.5	45.5	45.7							
105	51.0	50.6	50.2	49.6	49.3	48.8	49.8	49.8	49.7	50.0	50.0	50.2							
110	56.8	56.4	56.0	55.5	55.0	54.6	54.8	54.8	54.8	55.0	55.0	55.2							
115	62.6	62.2	61.8	61.3	60.9	60.4	60.2	60.2	60.1	60.4	60.3	60.5							
120	68.2	67.8	67.3	66.8	66.4	65.9	65.6	65.4	65.3	65.5	65.5	65.6							
125	73.2	72.8	72.4	71.8	71.5	70.9	70.3	70.1	70.1	70.2	70.2	70.2							
130	77.9	77.4	77.1	76.4	76.1	75.6	74.6	74.3	74.2	74.3	74.3	74.3							
135	82.2	81.8	81.4	80.9	80.4	79.9	78.4	78.1	78.0	78.0	78.0	77.9							
140	86.3	86.0	85.5	85.0	84.5	84.1	82.0	81.7	81.6	81.6	81.6	81.5							
145	90.3	90.1	89.5	89.0	88.4	88.1	85.6	85.3	85.2	85.2	85.2	85.0							
150	94.3	94.1	93.5	93.1	92.5	92.2	89.5	89.0	88.9	88.8	88.8	88.7							
155	98.4	98.2	97.5	97.1	96.6	96.3	93.5	93.0	92.9	92.8	92.8	92.6							
160	102	102	101	101	101	100	97.7	97.1	97.0	96.8	96.8	96.6							
165	106	106	105	105	104	104	102	101	101	101	101	101							
170	109	108	108	107	107	107	106	105	105	104	104	104							
175	109	109	108	108	107	107	108	107	107	107	107	106							
180	109	109	108	108	107	107	109	108	108	107	108	107							

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2018-12-11

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.406.11
Humidity: 65.0%
Test Distance: 8.000m [K=0.7063]
Remarks: