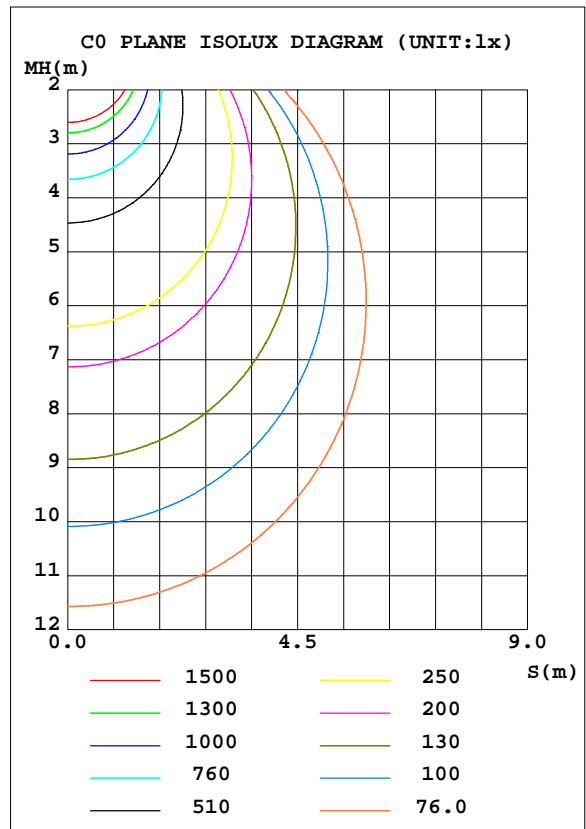
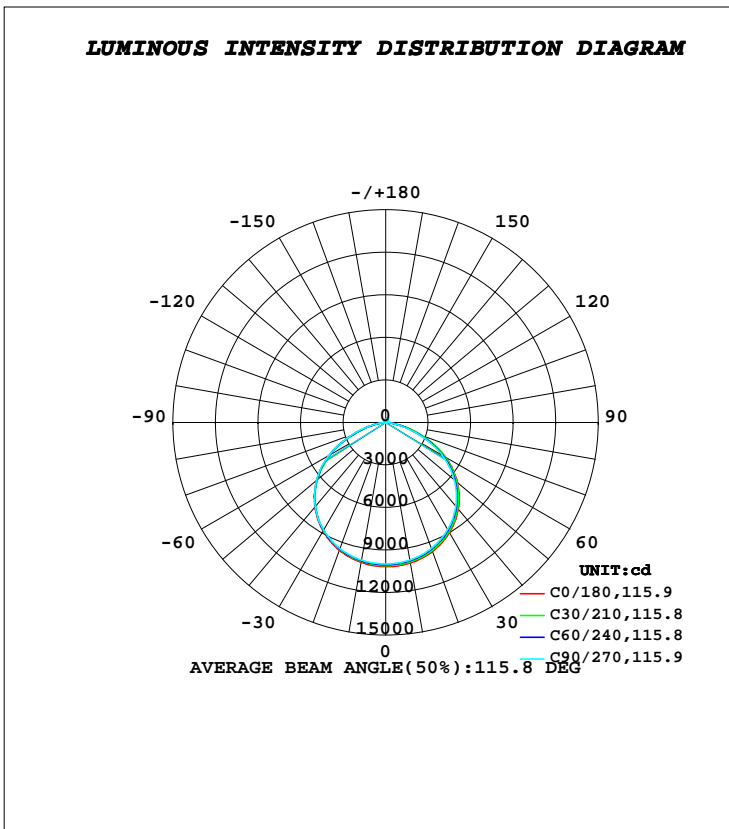


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:221.20V I:0.9430A P:202.90W PF:0.9510 Freq:50.00Hz Lamp Flux:29747.4x1 lm		
NAME: UFO200-QW	TYPE:LED	
MFR.:		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 146.61 lm/W			
MODEL		I _{max} (cd)	10172	S/MH(C0/180)	1.31
NOMINAL POWER(W)	200	LOR(%)	100.0	S/MH(C90/270)	1.30
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	29747	η UP, DN(C0-180)	1.3, 48.7
NOMINAL FLUX(lm)	29747.4	CIE CLASS	DIRECT	η UP, DN(C180-360)	1.4, 48.5
LAMPS INSIDE	1	η up(%)	2.7	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	220	η down(%)	97.3	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2019-03-08

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=0.7125]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

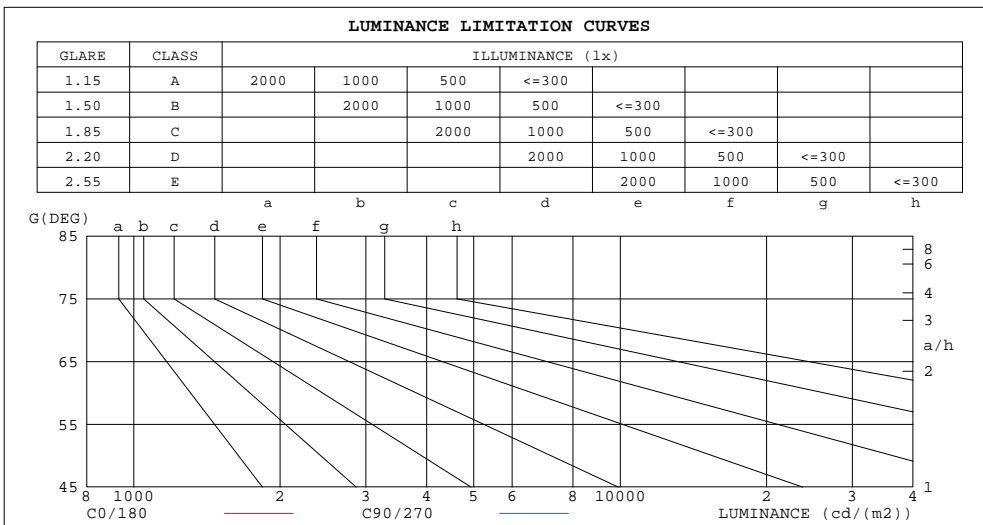
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	1006	994.7	985.6	977.2	1002	993.0	986.4	981.0	0- 10	950.5	950.5	3.2,3.2
20	968.0	955.4	944.3	934.9	958.6	951.5	946.8	942.8	10- 20	2748	3699	12.4,12.4
30	898.5	885.9	873.3	862.5	883.8	878.7	876.9	875.3	20- 30	4230	7929	26.7,26.7
40	797.0	784.0	770.2	758.0	777.2	773.4	774.3	775.9	30- 40	5197	13126	44.1,44.1
50	660.2	647.1	632.5	618.8	633.2	633.0	636.8	642.3	40- 50	5476	18602	62.5,62.5
60	486.3	474.2	459.7	443.4	451.9	453.4	460.2	468.0	50- 60	4939	23541	79.1,79.1
70	271.6	261.7	246.6	231.7	232.0	238.9	248.2	260.3	60- 70	3518	27059	91,91
80	79.69	74.42	66.68	57.33	57.22	60.95	67.90	76.18	70- 80	1615	28674	96.4,96.4
90	5.865	5.769	5.710	5.739	7.568	7.425	7.302	7.292	80- 90	256.9	28931	97.3,97.3
100	7.595	7.617	7.680	7.755	9.283	9.091	8.894	8.733	90-100	80.37	29011	97.5,97.5
110	9.958	9.968	10.04	10.11	11.45	11.22	10.98	10.78	100-110	99.48	29111	97.9,97.9
120	12.32	12.29	12.33	12.38	13.65	13.38	13.13	12.95	110-120	115.9	29227	98.2,98.2
130	14.41	14.36	14.37	14.41	15.48	15.20	14.94	14.78	120-130	123.4	29350	98.7,98.7
140	16.30	16.25	16.25	16.26	17.11	16.81	16.54	16.37	130-140	120.6	29471	99.1,99.1
150	18.19	18.14	18.11	18.08	18.78	18.45	18.17	18.01	140-150	108.7	29580	99.4,99.4
160	20.11	20.04	19.98	19.91	20.48	20.14	19.86	19.71	150-160	88.18	29668	99.7,99.7
170	21.90	21.76	21.65	21.53	21.98	21.64	21.38	21.24	160-170	58.83	29727	99.9,99.9
180	22.32	22.16	22.01	21.83	22.46	22.16	21.94	21.83	170-180	20.88	29747	100,100
DEG	LUMINOUS INTENSITY:×10cd									UNIT:lm		

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2019-03-08

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=0.7125]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:221.20V I:0.9430A P:202.90W PF:0.9510 Freq:50.00Hz Lamp Flux:29747.4x1 lm		
NAME: UFO200-QW	TYPE:LED	
MFR.:		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	78648	55386
80	152973	127991
75	220241	192810
70	264725	240296
65	300350	279616
60	324228	306483
55	336054	319497
50	342372	328015
45	345611	332948

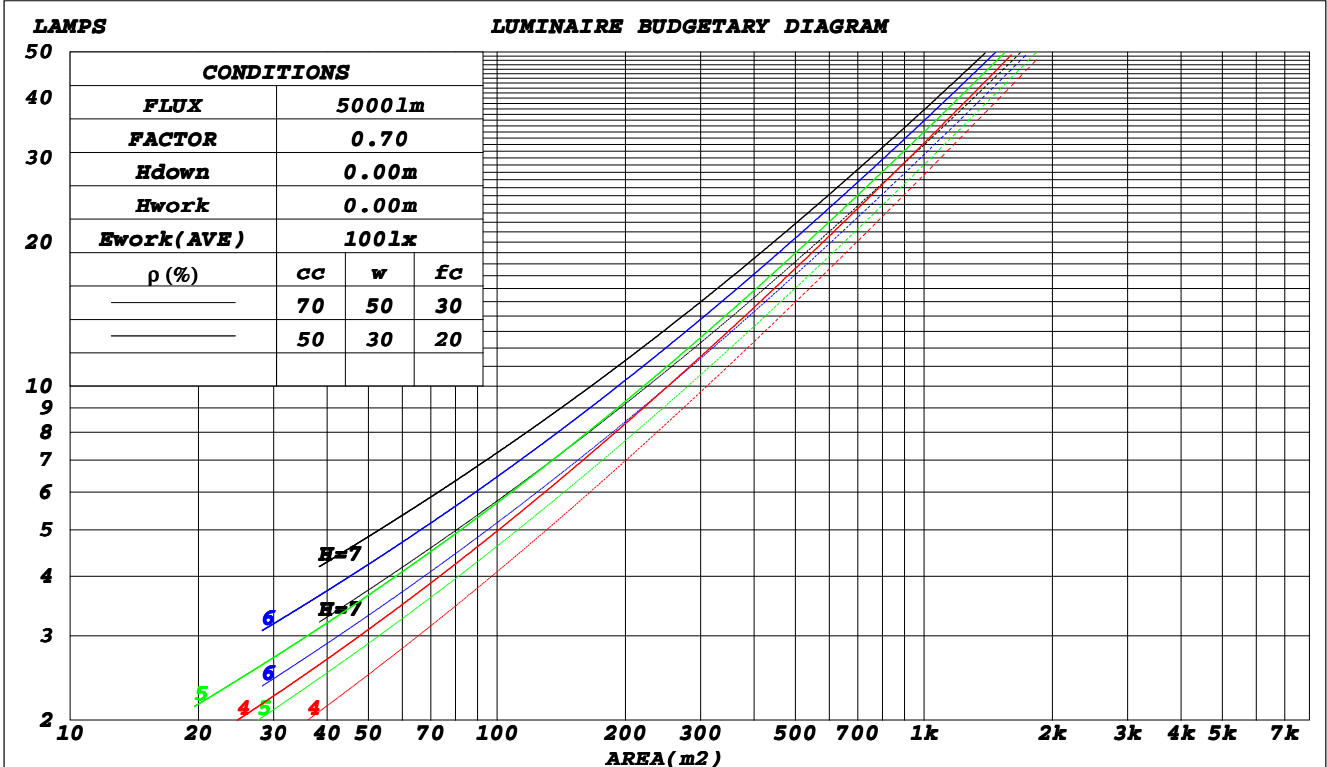
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2019-03-08

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=0.7125]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:221.20V I:0.9430A P:202.90W PF:0.9510 Freq:50.00Hz Lamp Flux:29747.4x1 lm		
NAME: UFO200-QW	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															
	Coefficients of Utilization(CU)															
0.0	1.18	1.18	1.18	1.15	1.15	1.15	1.10	1.10	1.10	1.04	1.04	1.04	.00	.00	.00	.97
1.0	1.04	1.00	.96	1.02	.98	.95	.97	.94	.91	.93	.90	.88	.89	.87	.85	.83
2.0	.91	.84	.79	.89	.83	.78	.85	.80	.75	.81	.77	.73	.78	.74	.71	.69
3.0	.80	.72	.66	.78	.71	.65	.75	.68	.63	.72	.66	.62	.69	.64	.60	.58
4.0	.71	.62	.55	.69	.61	.55	.66	.59	.54	.64	.58	.53	.61	.56	.52	.50
5.0	.63	.54	.48	.62	.54	.47	.59	.52	.47	.57	.51	.46	.55	.49	.45	.43
6.0	.57	.48	.42	.56	.47	.41	.54	.46	.41	.52	.45	.40	.50	.44	.39	.37
7.0	.51	.43	.37	.50	.42	.36	.49	.41	.36	.47	.40	.35	.45	.39	.35	.33
8.0	.47	.38	.33	.46	.38	.32	.44	.37	.32	.43	.36	.32	.42	.36	.31	.29
9.0	.43	.35	.29	.42	.34	.29	.41	.34	.29	.40	.33	.28	.38	.32	.28	.26
10.0	.40	.32	.26	.39	.31	.26	.38	.31	.26	.37	.30	.26	.36	.30	.26	.24



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2019-03-08

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=0.7125]
 Remarks:

WEC AND CCEC

Test:U:221.20V I:0.9430A P:202.90W PF:0.9510 Freq:50.00Hz Lamp Flux:29747.4x1 lm		
NAME: UFO200-QW	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	.292	.166	.053	.284	.162	.052	.270	.155	.049	.256	.148	.047	.244	.141	.046	
2.0	.280	.154	.047	.273	.151	.046	.260	.145	.045	.248	.139	.044	.237	.134	.042	
3.0	.262	.140	.042	.256	.137	.041	.244	.132	.040	.234	.128	.039	.224	.124	.038	
4.0	.244	.127	.037	.238	.125	.037	.228	.121	.036	.218	.117	.035	.209	.114	.035	
5.0	.226	.115	.033	.221	.114	.033	.212	.110	.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	.196	.097	.028	.192	.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	.172	.083	.023	.169	.082	.023	.163	.081	.023	.157	.079	.023	.152	.077	.022	
10.0	.162	.078	.022	.159	.077	.021	.154	.075	.021	.149	.074	.021	.144	.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																
1.0	.211	.211	.211	.181	.181	.181	.123	.123	.123	.071	.071	.071	.023	.023	.023	
2.0	.192	.153	.121	.164	.132	.104	.113	.091	.073	.065	.053	.043	.021	.017	.014	
3.0	.184	.136	.097	.158	.117	.084	.108	.081	.059	.063	.047	.035	.020	.015	.011	
4.0	.177	.122	.081	.152	.106	.070	.104	.074	.049	.060	.043	.029	.019	.014	.010	
5.0	.170	.112	.069	.146	.097	.060	.100	.068	.043	.058	.040	.025	.019	.013	.008	
6.0	.163	.104	.061	.140	.090	.053	.097	.063	.038	.056	.037	.022	.018	.012	.007	
7.0	.156	.097	.055	.134	.084	.048	.093	.059	.034	.054	.035	.020	.017	.011	.007	
8.0	.150	.091	.051	.129	.079	.044	.089	.055	.031	.052	.033	.019	.017	.011	.006	
9.0	.144	.086	.047	.124	.075	.041	.086	.053	.029	.050	.031	.017	.016	.010	.006	
10.0	.138	.082	.044	.119	.071	.039	.083	.050	.027	.048	.030	.016	.016	.010	.005	

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2019-03-08

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=0.7125]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:221.20V I:0.9430A P:202.90W PF:0.9510 Freq:50.00Hz Lamp Flux:29747.4x1 lm		
NAME: UFO200-QW	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	33.2	34.6	33.5	34.9	35.1	32.9	34.4	33.2	34.6	34.9
3H	34.5	35.8	34.8	36.1	36.4	34.2	35.5	34.5	35.8	36.1
4H	34.9	36.2	35.3	36.5	36.8	34.5	35.8	34.9	36.1	36.4
6H	35.1	36.3	35.5	36.6	37.0	34.7	35.9	35.0	36.2	36.5
8H	35.1	36.3	35.5	36.6	36.9	34.7	35.8	35.0	36.1	36.5
12H	35.1	36.2	35.5	36.5	36.9	34.6	35.7	35.0	36.1	36.4
4H 2H	33.7	35.0	34.0	35.3	35.6	33.5	34.8	33.9	35.1	35.4
3H	35.2	36.3	35.6	36.6	37.0	34.9	36.0	35.3	36.3	36.7
4H	35.7	36.7	36.1	37.1	37.5	35.3	36.3	35.7	36.7	37.1
6H	36.0	36.9	36.4	37.3	37.7	35.5	36.4	36.0	36.8	37.3
8H	36.0	36.8	36.5	37.2	37.7	35.6	36.4	36.0	36.8	37.2
12H	36.0	36.7	36.5	37.2	37.6	35.5	36.3	36.0	36.7	37.2
8H 4H	35.8	36.6	36.3	37.1	37.5	35.5	36.3	35.9	36.7	37.2
6H	36.2	36.9	36.7	37.3	37.8	35.8	36.5	36.3	36.9	37.4
8H	36.3	36.9	36.8	37.3	37.8	35.8	36.4	36.3	36.9	37.4
12H	36.3	36.8	36.8	37.3	37.8	35.8	36.3	36.3	36.8	37.4
12H 4H	35.8	36.5	36.3	37.0	37.4	35.5	36.2	35.9	36.7	37.1
6H	36.2	36.8	36.7	37.2	37.8	35.8	36.4	36.3	36.9	37.4
8H	36.3	36.8	36.8	37.3	37.8	35.8	36.4	36.4	36.8	37.4
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.3				
1.5H	+ 0.2 / - 0.4					+ 0.2 / - 0.4				
2.0H	+ 0.3 / - 0.4					+ 0.3 / - 0.4				

CIE Pub.117, 29747 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 11.8)

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-03-08

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=0.7125]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:221.20V I:0.9430A P:202.90W PF:0.9510 Freq:50.00Hz Lamp Flux:29747.4x1 lm		
NAME: UFO200-QW	TYPE:LED	
MFR.:		

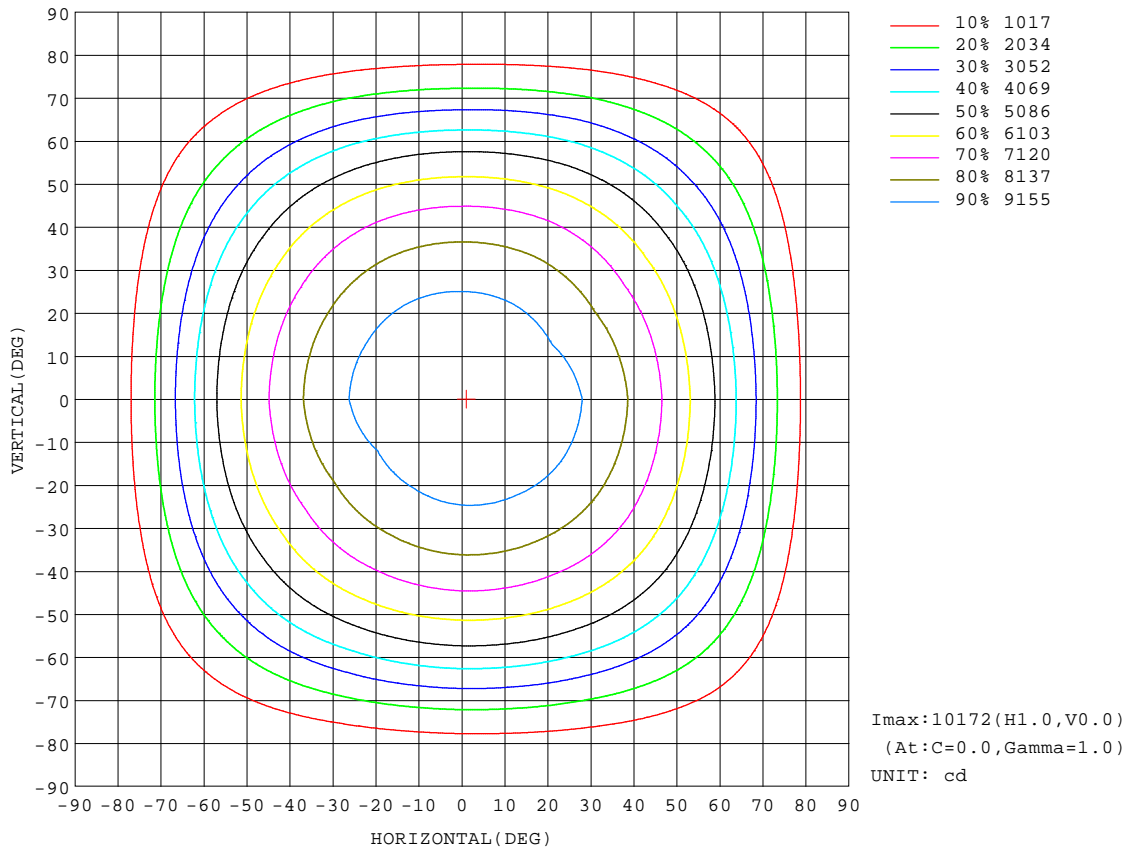
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	57	45	38	56	45	38	55	44	38	32
0.80	67	56	48	66	55	48	64	54	48	41
1.00	76	65	58	74	64	57	72	65	57	49
1.25	83	73	66	81	72	65	78	70	64	57
1.50	88	78	72	86	77	71	83	75	70	62
2.00	95	87	80	93	85	79	89	83	78	69
2.50	99	91	85	97	90	84	92	87	82	73
3.00	102	96	90	100	94	89	95	91	86	77
4.00	106	101	96	104	99	95	99	95	92	82
5.00	108	104	100	106	102	98	101	98	95	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:2019-03-08

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=0.7125]
Remarks:

ISOCANDELA DIAGRAM

Test:U:221.20V I:0.9430A P:202.90W PF:0.9510 Freq:50.00Hz Lamp Flux:29747.4x1 lm		
NAME: UFO200-QW	TYPE:LED	
MFR.:		



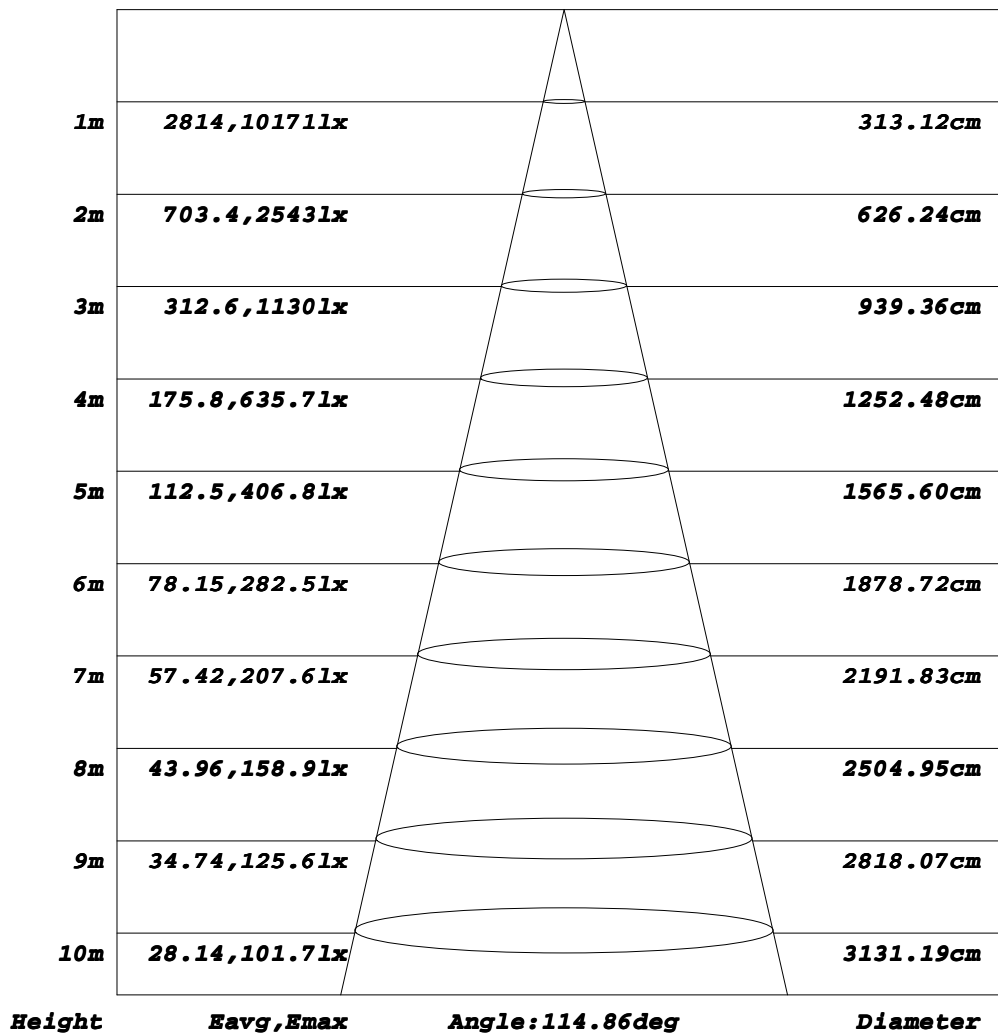
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2019-03-08

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=0.7125]
Remarks:

AAI Figure

Test:U:221.20V I:0.9430A P:202.90W PF:0.9510 Freq:50.00Hz Lamp Flux:29747.4x1 lm		
NAME: UFO200-QW	TYPE:LED	
MFR.:		

Flux out:22637 lm



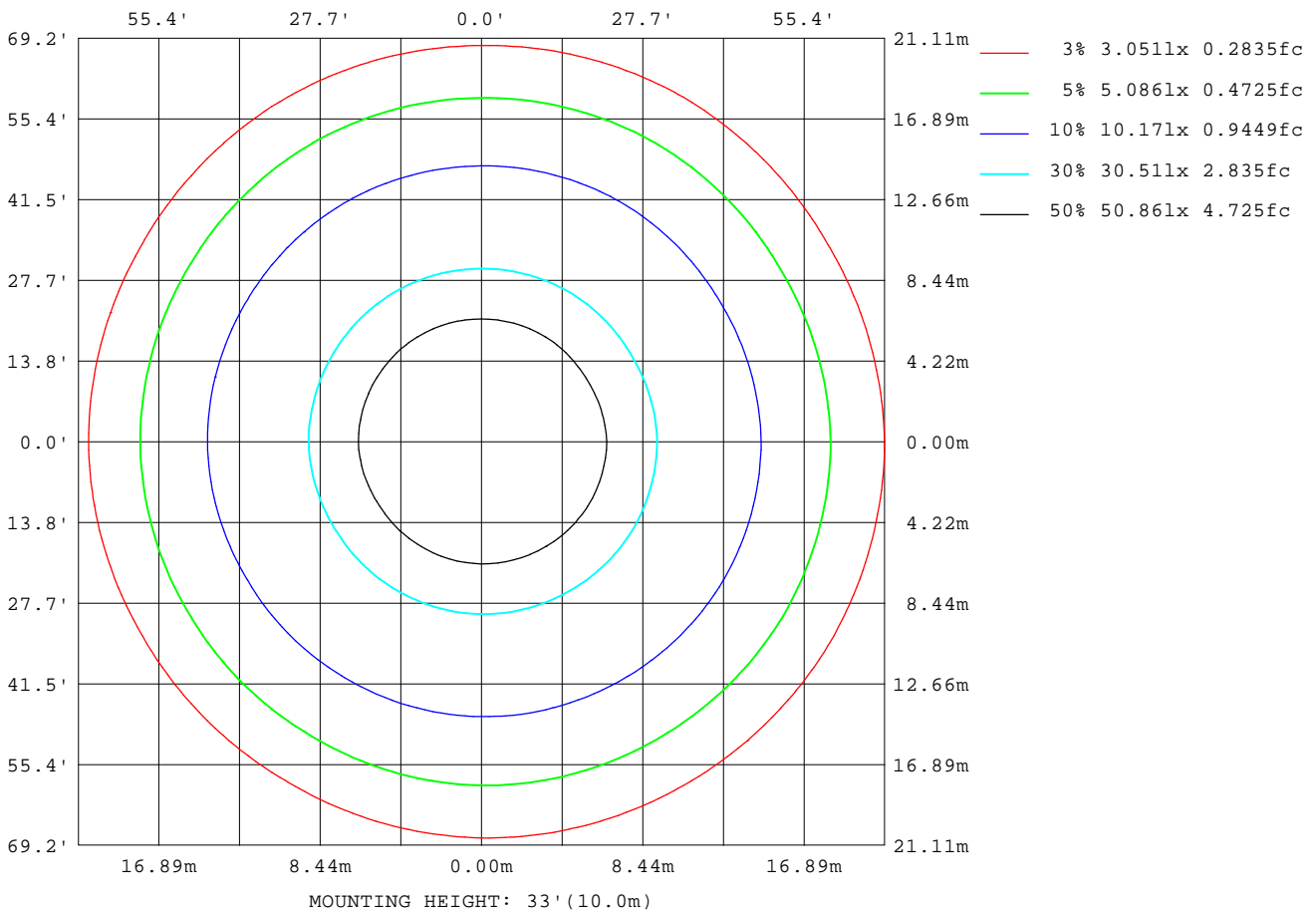
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2019-03-08

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=0.7125]
Remarks:

ISOLUX DIAGRAM

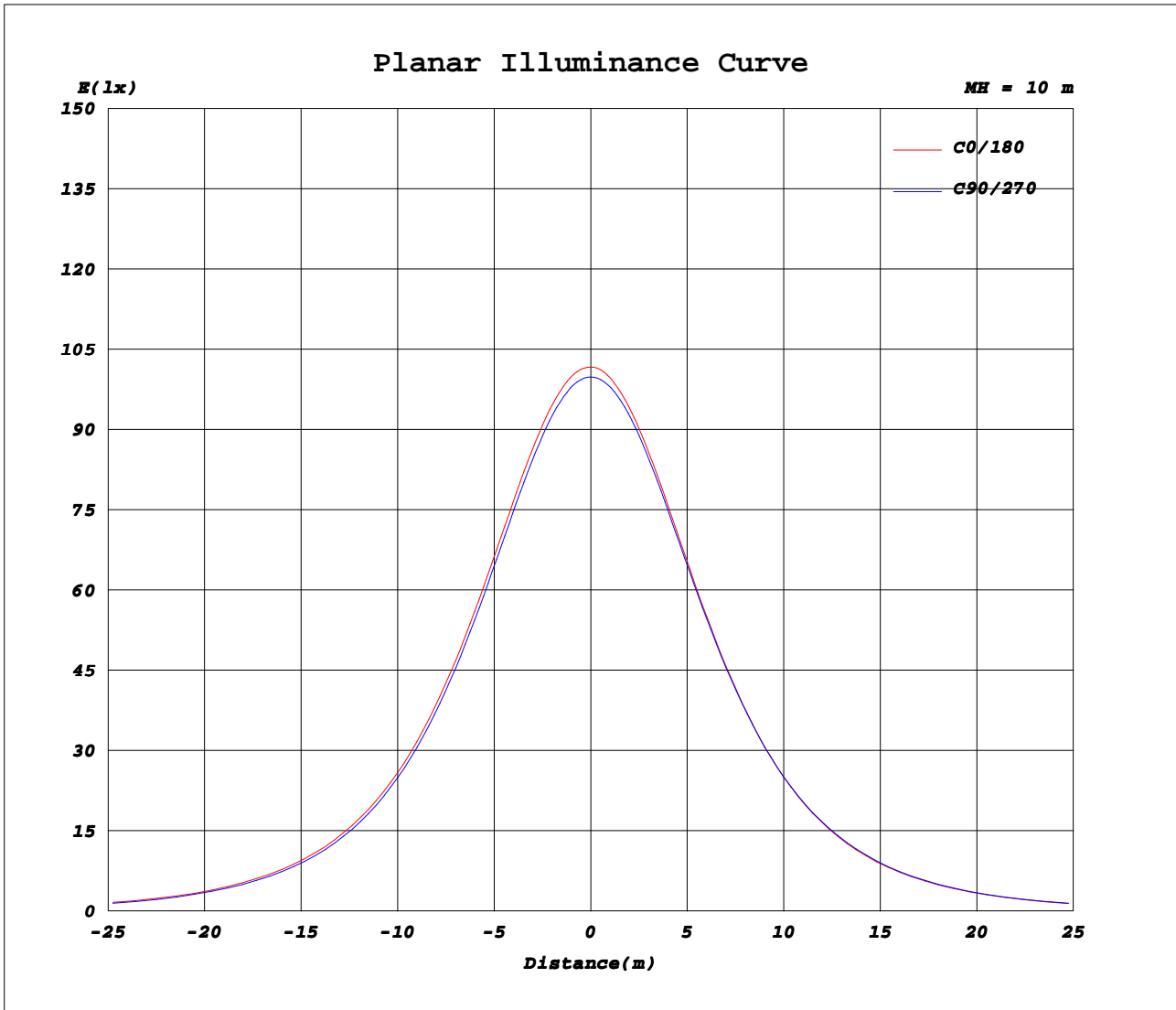
Test:U:221.20V I:0.9430A P:202.90W PF:0.9510 Freq:50.00Hz Lamp Flux:29747.4x1 lm		
NAME: UFO200-QW	TYPE:LED	
MFR.:		



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2019-03-08

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=0.7125]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2019-03-08

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=0.7125]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:221.20V I:0.9430A P:202.90W PF:0.9510 Freq:50.00Hz Lamp Flux:29747.4x1 lm		
NAME: UFO200-QW	TYPE:LED	
MFR.:		

Table--1

UNIT: x10cd

C (DEG) \ γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330							
0	1017	1010	1004	999	993	989	1017	1010	1004	999	993	989							
5	1015	1008	1001	995	990	986	1013	1006	1001	996	991	988							
10	1006	999	991	986	979	975	1002	995	991	986	983	979							
15	991	984	974	968	962	958	984	978	974	971	968	964							
20	968	961	950	944	937	933	959	953	950	947	945	941							
25	937	930	919	913	905	901	925	920	918	916	915	911							
30	899	892	880	873	864	861	884	878	879	877	877	873							
35	852	846	833	826	816	813	835	830	831	830	832	828							
40	797	790	778	770	760	756	777	772	775	774	778	774							
45	733	727	713	706	695	691	710	705	711	710	716	712							
50	660	655	640	633	621	617	633	629	637	637	644	640							
55	578	573	558	550	538	533	546	543	551	554	562	559							
60	486	481	467	460	445	442	452	449	458	460	469	467							
65	381	377	364	355	339	336	343	343	352	355	366	365							
70	272	269	254	247	234	229	232	233	244	248	260	261							
75	171	168	156	150	138	134	135	137	147	151	161	163							
80	79.7	79.8	69.0	66.7	57.6	57.1	57.2	57.3	64.6	67.9	75.6	76.7							
85	20.6	18.4	17.0	14.5	12.2	11.9	13.2	13.2	15.5	17.2	18.9	19.8							
90	5.87	5.81	5.73	5.71	5.74	5.74	7.57	7.48	7.37	7.30	7.29	7.29							
95	6.54	6.53	6.58	6.62	6.68	6.69	8.34	8.25	8.10	8.00	7.88	7.85							
100	7.59	7.59	7.65	7.68	7.75	7.76	9.28	9.17	9.01	8.89	8.75	8.71							
105	8.76	8.72	8.80	8.83	8.91	8.91	10.3	10.2	10.0	9.89	9.74	9.69							
110	9.96	9.95	9.99	10.0	10.1	10.1	11.5	11.3	11.1	11.0	10.8	10.8							
115	11.2	11.2	11.2	11.2	11.3	11.3	12.6	12.4	12.2	12.1	11.9	11.9							
120	12.3	12.3	12.3	12.3	12.4	12.4	13.7	13.5	13.3	13.1	13.0	12.9							
125	13.4	13.3	13.3	13.4	13.4	13.4	14.6	14.4	14.3	14.1	14.0	13.9							
130	14.4	14.4	14.4	14.4	14.4	14.4	15.5	15.3	15.1	14.9	14.8	14.7							
135	15.4	15.3	15.3	15.3	15.3	15.3	16.3	16.1	15.9	15.8	15.6	15.5							
140	16.3	16.3	16.2	16.3	16.2	16.3	17.1	16.9	16.7	16.5	16.4	16.3							
145	17.2	17.2	17.2	17.2	17.2	17.2	17.9	17.7	17.5	17.3	17.2	17.1							
150	18.2	18.2	18.1	18.1	18.1	18.1	18.8	18.5	18.4	18.2	18.1	18.0							
155	19.1	19.1	19.0	19.0	19.0	19.0	19.6	19.4	19.2	19.0	18.9	18.8							
160	20.1	20.1	20.0	20.0	19.9	19.9	20.5	20.2	20.1	19.9	19.8	19.7							
165	21.1	21.0	20.9	20.9	20.8	20.8	21.3	21.0	20.9	20.7	20.6	20.4							
170	21.9	21.8	21.7	21.6	21.5	21.5	22.0	21.7	21.6	21.4	21.3	21.2							
175	22.4	22.3	22.1	22.1	22.0	21.9	22.4	22.1	22.0	21.8	21.7	21.6							
180	22.3	22.3	22.0	22.0	21.8	21.8	22.5	22.2	22.1	21.9	21.9	21.7							

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2019-03-08

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=0.7125]
Remarks: