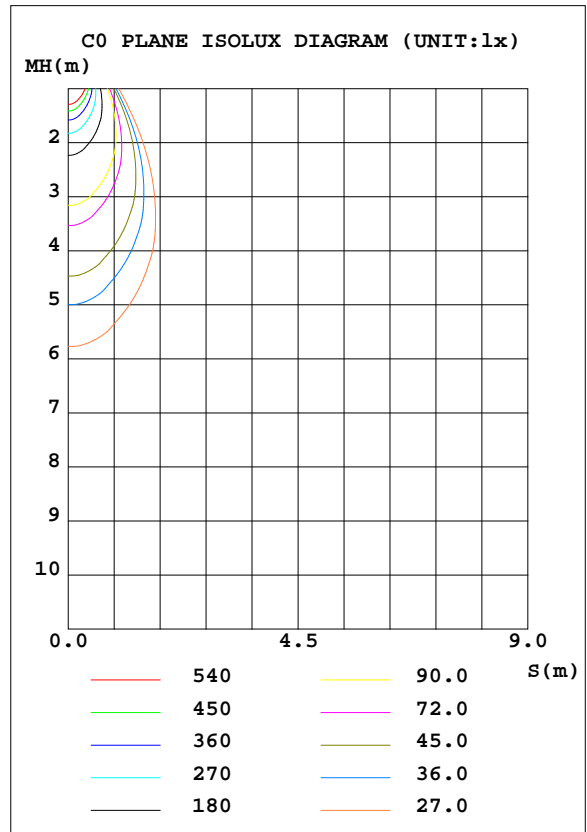
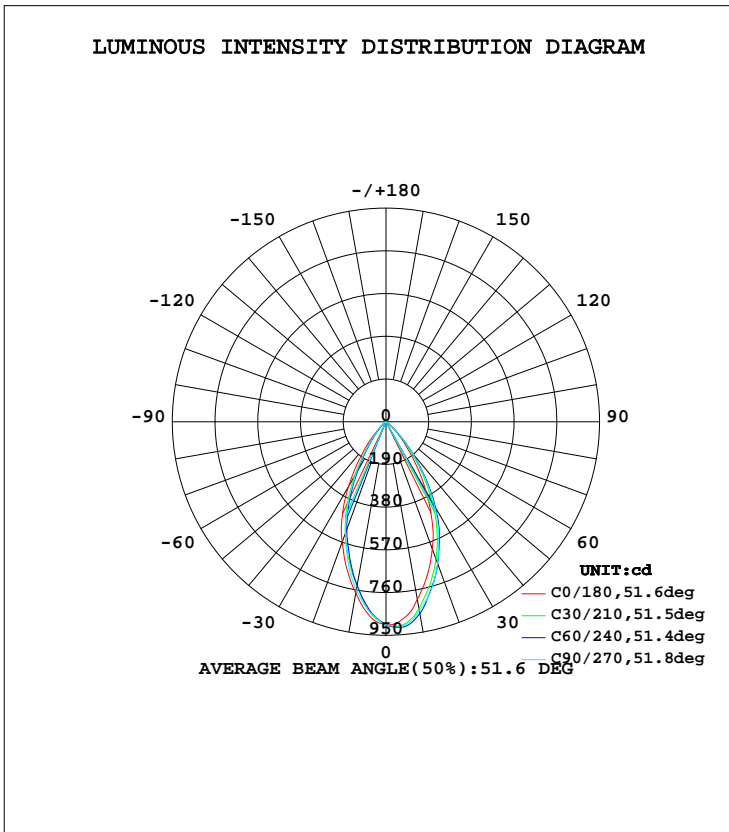


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:240.2V I:0.0460A P:10.70W PF:0.9490 Lamp Flux:702.524x1 lm		
NAME: DL10WCOB-AG-G-WW	TYPE:10W	WEIGHT:
DIM.:	SPEC.:2700K	SERIAL No.:1
MFR.:	SUR.:0.0058	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 65.66 lm/W			
MODEL	DL10WCOB-AG-G-WW	Imax(cd)	916.6	S/MH(C0/180)	0.80
NOMINAL POWER(W)	10	LOR(%)	100.0	S/MH(C90/270)	0.88
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	702.52	η UP, DN(C0-180)	0.0, 54.9
NOMINAL FLUX(lm)	702.524	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 45.1
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	240.2	η down(%)	100.0	CIBSE SHR MAX	0.85



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-10-19

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	802.8	855.0	854.3	804.1	774.2	740.1	760.1	795.3	0- 10	81.17	81.17	11.6,11.6
20	602.0	661.8	671.5	595.3	569.8	520.8	527.6	582.1	10- 20	194.8	275.9	39.3,39.3
30	355.2	425.6	429.9	368.9	335.8	266.7	266.5	327.3	20- 30	215.2	491.1	69.9,69.9
40	134.9	178.6	183.9	147.2	117.9	81.58	82.64	116.5	30- 40	142.0	633.2	90.1,90.1
50	27.34	30.64	23.85	16.71	19.36	17.58	23.33	29.06	40- 50	50.67	683.8	97.3,97.3
60	8.421	7.958	6.929	6.191	7.098	7.375	8.602	9.517	50- 60	11.64	695.5	99,99
70	2.782	2.096	1.704	1.764	2.407	3.014	3.577	3.508	60- 70	4.602	700.1	99.7,99.7
80	1.368	0.8535	0.6139	0.4272	0.9744	1.121	1.825	1.737	70- 80	2.019	702.1	99.9,99.9
90	0	0	0	0	0	0	0	0	80- 90	0.4289	702.5	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		

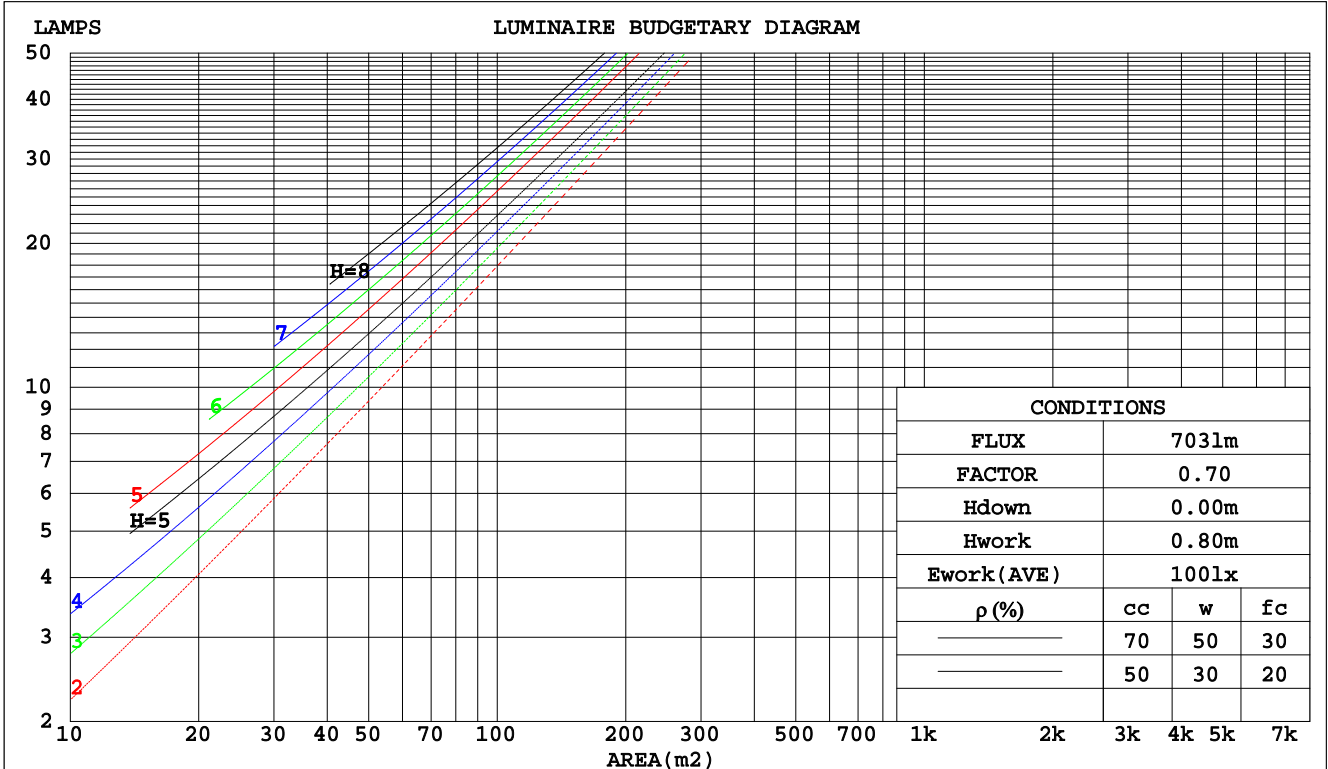
C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-10-19

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:240.2V I:0.0460A P:10.70W PF:0.9490 Lamp Flux:702.524x1 lm		
NAME: DL10WCOB-AG-G-WW	TYPE:10W	WEIGHT:
DIM.:	SPEC.:2700K	SERIAL No.:1
MFR.:	SUR.:0.0058	PROTECTION ANGLE:

pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	
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	1.11	1.08	1.06	1.08	1.06	1.04	1.04	1.03	1.01	1.01	.99	.98	.97	.96	.95	.93
2.0	1.03	.99	.95	1.01	.97	.94	.98	.95	.92	.95	.92	.90	.92	.90	.88	.87
3.0	.96	.91	.87	.94	.90	.86	.92	.88	.85	.89	.86	.83	.87	.84	.82	.80
4.0	.89	.84	.80	.88	.83	.79	.86	.82	.78	.84	.80	.77	.82	.79	.76	.75
5.0	.84	.78	.73	.83	.77	.73	.81	.76	.72	.79	.75	.72	.78	.74	.71	.70
6.0	.79	.73	.68	.78	.72	.68	.76	.71	.67	.75	.70	.67	.73	.70	.67	.65
7.0	.74	.68	.64	.73	.67	.63	.72	.67	.63	.71	.66	.63	.70	.65	.62	.61
8.0	.70	.64	.59	.69	.63	.59	.68	.63	.59	.67	.62	.59	.66	.62	.59	.57
9.0	.66	.60	.56	.65	.60	.56	.64	.59	.56	.63	.59	.55	.63	.58	.55	.54
10.0	.62	.56	.53	.62	.56	.52	.61	.56	.52	.60	.55	.52	.59	.55	.52	.51



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-10-19

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:240.2V I:0.0460A P:10.70W PF:0.9490 Lamp Flux:702.524x1 lm		
NAME: DL10WCOB-AG-G-WW	TYPE:10W	WEIGHT:
DIM.:	SPEC.:2700K	SERIAL No.:1
MFR.:	SUR.:0.0058	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	.181	.103	.033	.174	.099	.031	.161	.092	.030	.150	.086	.028	.139	.081	.026	
2.0	.173	.095	.029	.167	.092	.028	.157	.087	.027	.147	.082	.026	.138	.078	.025	
3.0	.165	.088	.026	.160	.086	.026	.151	.082	.025	.143	.078	.024	.135	.075	.023	
4.0	.157	.082	.024	.153	.080	.024	.145	.077	.023	.138	.074	.022	.131	.071	.022	
5.0	.150	.076	.022	.146	.075	.022	.139	.072	.021	.133	.070	.021	.127	.068	.020	
6.0	.143	.071	.020	.139	.070	.020	.133	.068	.020	.128	.066	.020	.123	.065	.019	
7.0	.136	.067	.019	.133	.066	.019	.128	.065	.019	.123	.063	.018	.118	.061	.018	
8.0	.130	.064	.018	.128	.063	.018	.123	.061	.018	.118	.060	.017	.114	.059	.017	
9.0	.125	.060	.017	.122	.060	.017	.118	.058	.017	.114	.057	.016	.110	.056	.016	
10.0	.120	.057	.016	.118	.057	.016	.114	.056	.016	.110	.055	.016	.107	.054	.015	

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	.171	.157	.145	.147	.135	.124	.100	.093	.086	.058	.054	.050	.018	.017	.016	
2.0	.156	.132	.112	.134	.114	.097	.092	.079	.068	.053	.046	.040	.017	.015	.013	
3.0	.144	.114	.089	.124	.098	.077	.085	.068	.054	.049	.040	.032	.016	.013	.010	
4.0	.134	.099	.072	.115	.085	.063	.079	.060	.044	.046	.035	.026	.015	.011	.009	
5.0	.126	.087	.059	.108	.076	.051	.074	.053	.036	.043	.031	.022	.014	.010	.007	
6.0	.118	.078	.049	.102	.068	.043	.070	.047	.030	.041	.028	.018	.013	.009	.006	
7.0	.112	.071	.042	.096	.061	.036	.066	.043	.026	.039	.025	.015	.012	.008	.005	
8.0	.106	.064	.036	.091	.056	.031	.063	.039	.022	.037	.023	.013	.012	.008	.004	
9.0	.101	.059	.031	.087	.051	.027	.060	.036	.019	.035	.021	.011	.011	.007	.004	
10.0	.096	.055	.027	.083	.048	.024	.058	.034	.017	.034	.020	.010	.011	.007	.003	

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-10-19

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:240.2V I:0.0460A P:10.70W PF:0.9490 Lamp Flux:702.524x1 lm										
NAME: DL10WCOB-AG-G-WW					TYPE:10W			WEIGHT:		
DIM.:					SPEC.:2700K			SERIAL No.:1		
MFR.:					SUR.:0.0058			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	18.7	19.6	18.9	19.8	20.0	19.6	20.6	19.8	20.7	20.9
3H	18.5	19.4	18.8	19.6	19.8	19.4	20.3	19.7	20.5	20.7
4H	18.5	19.3	18.7	19.5	19.7	19.3	20.2	19.6	20.4	20.6
6H	18.4	19.2	18.7	19.4	19.7	19.3	20.0	19.6	20.3	20.5
8H	18.3	19.1	18.7	19.3	19.6	19.2	20.0	19.5	20.2	20.5
12H	18.3	19.0	18.6	19.3	19.6	19.2	19.9	19.5	20.2	20.4
4H 2H	18.4	19.3	18.7	19.5	19.7	19.4	20.2	19.6	20.4	20.6
3H	18.3	19.0	18.6	19.3	19.6	19.2	19.9	19.5	20.2	20.5
4H	18.2	18.9	18.6	19.2	19.5	19.1	19.8	19.5	20.1	20.4
6H	18.2	18.7	18.5	19.1	19.4	19.0	19.6	19.4	19.9	20.3
8H	18.1	18.7	18.5	19.0	19.4	19.0	19.5	19.4	19.9	20.2
12H	18.1	18.6	18.5	18.9	19.3	18.9	19.4	19.3	19.8	20.2
8H 4H	18.1	18.6	18.5	19.0	19.3	19.0	19.5	19.4	19.9	20.2
6H	18.0	18.5	18.5	18.9	19.3	18.9	19.3	19.3	19.7	20.1
8H	18.0	18.4	18.4	18.8	19.2	18.8	19.2	19.3	19.6	20.1
12H	17.9	18.3	18.4	18.7	19.2	18.8	19.1	19.2	19.5	20.0
12H 4H	18.0	18.5	18.5	18.9	19.3	18.9	19.4	19.3	19.8	20.2
6H	18.0	18.4	18.4	18.8	19.2	18.8	19.2	19.3	19.6	20.1
8H	17.9	18.3	18.4	18.7	19.2	18.8	19.1	19.2	19.5	20.0
Variations with the observer position at spacings:										
S = 1.0H	+ 2.5 / - 8.4					+ 2.6 / -10.8				
1.5H	+ 4.2 / - 7.3					+ 4.7 / - 8.8				
2.0H	+ 5.8 / - 4.5					+ 6.5 / - 6.2				

CIE Pub.117 Corrected 702.5 lm Total Lamp Luminous Flux. (8log(F/F0) = -1.2)

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-10-19

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:240.2V I:0.0460A P:10.70W PF:0.9490 Lamp Flux:702.524x1 lm		
NAME: DL10WCOB-AG-G-WW	TYPE:10W	WEIGHT:
DIM.:	SPEC.:2700K	SERIAL No.:1
MFR.:	SUR.:0.0058	PROTECTION ANGLE:

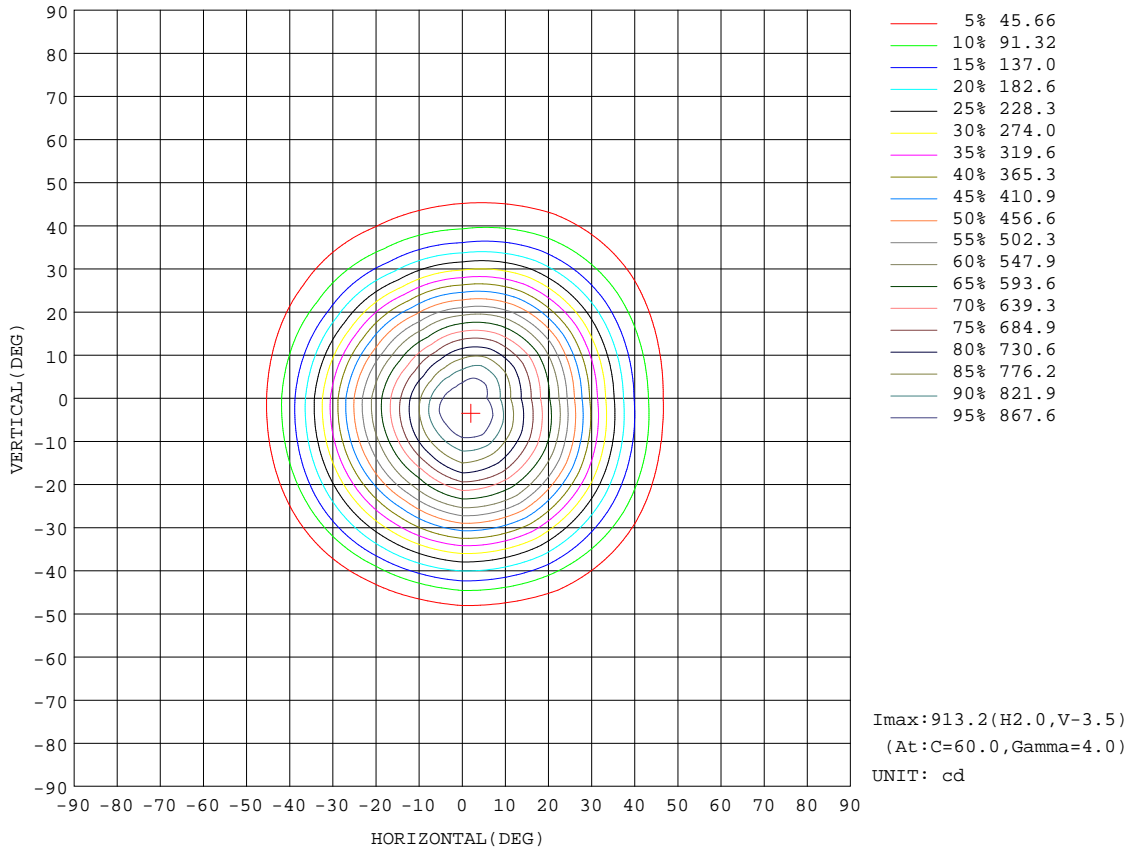
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	85	79	75	85	78	75	84	78	74	71
0.80	93	87	83	92	87	83	91	86	82	79
1.00	98	92	88	97	92	88	96	92	87	83
1.25	102	97	93	101	96	93	99	95	92	88
1.50	105	100	97	104	99	96	102	98	95	90
2.00	108	104	100	107	103	100	104	101	98	93
2.50	110	106	103	108	105	102	105	102	100	94
3.00	111	108	105	110	106	104	106	104	102	95
4.00	113	111	108	111	109	107	108	106	104	97
5.00	115	112	110	113	111	109	109	107	106	98
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:2019-10-19

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:240.2V I:0.0460A P:10.70W PF:0.9490 Lamp Flux:702.524x1 lm		
NAME: DL10WCOB-AG-G-WW	TYPE:10W	WEIGHT:
DIM.:	SPEC.:2700K	SERIAL No.:1
MFR.:	SUR.:0.0058	PROTECTION ANGLE:

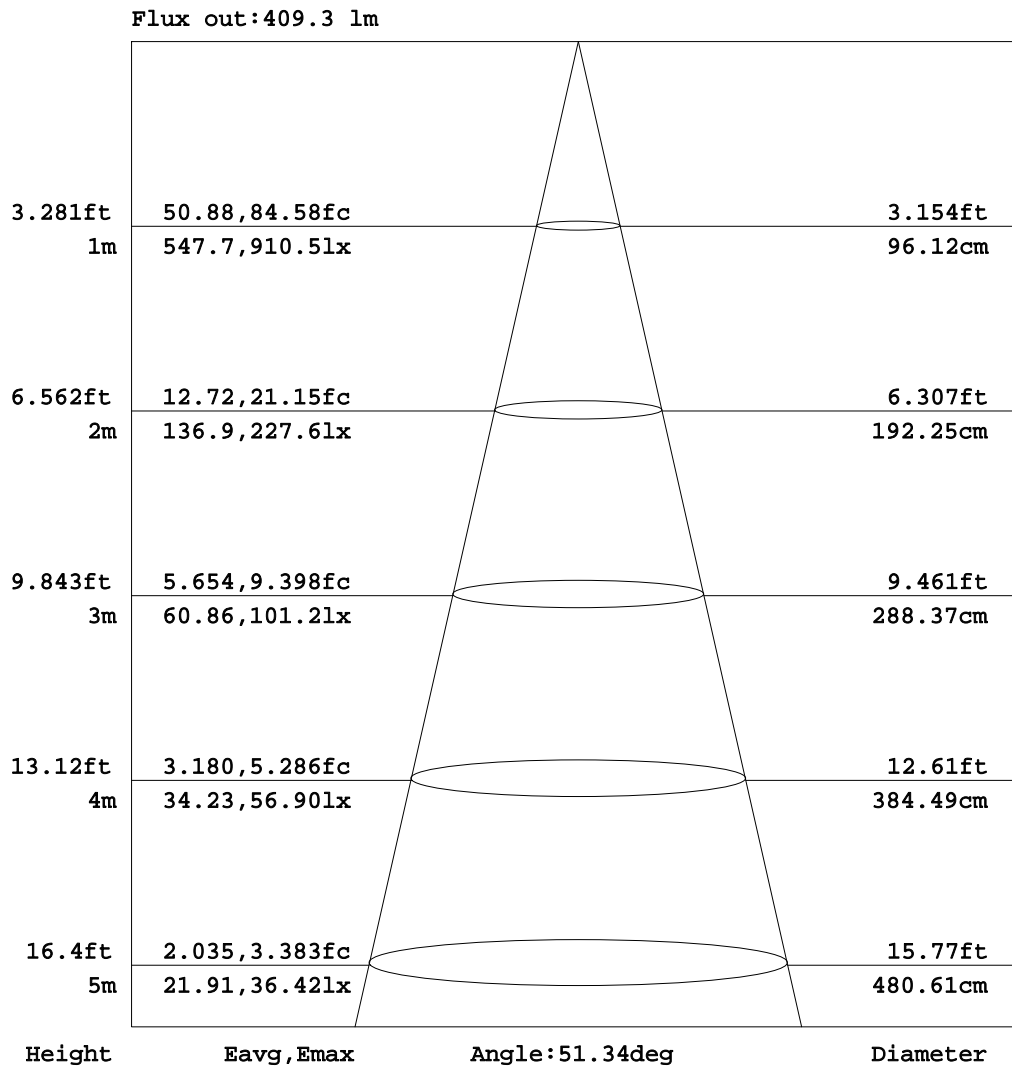


C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-10-19

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:240.2V I:0.0460A P:10.70W PF:0.9490 Lamp Flux:702.524x1 lm		
NAME: DL10WCOB-AG-G-WW	TYPE:10W	WEIGHT:
DIM.:	SPEC.:2700K	SERIAL No.:1
MFR.:	SUR.:0.0058	PROTECTION ANGLE:



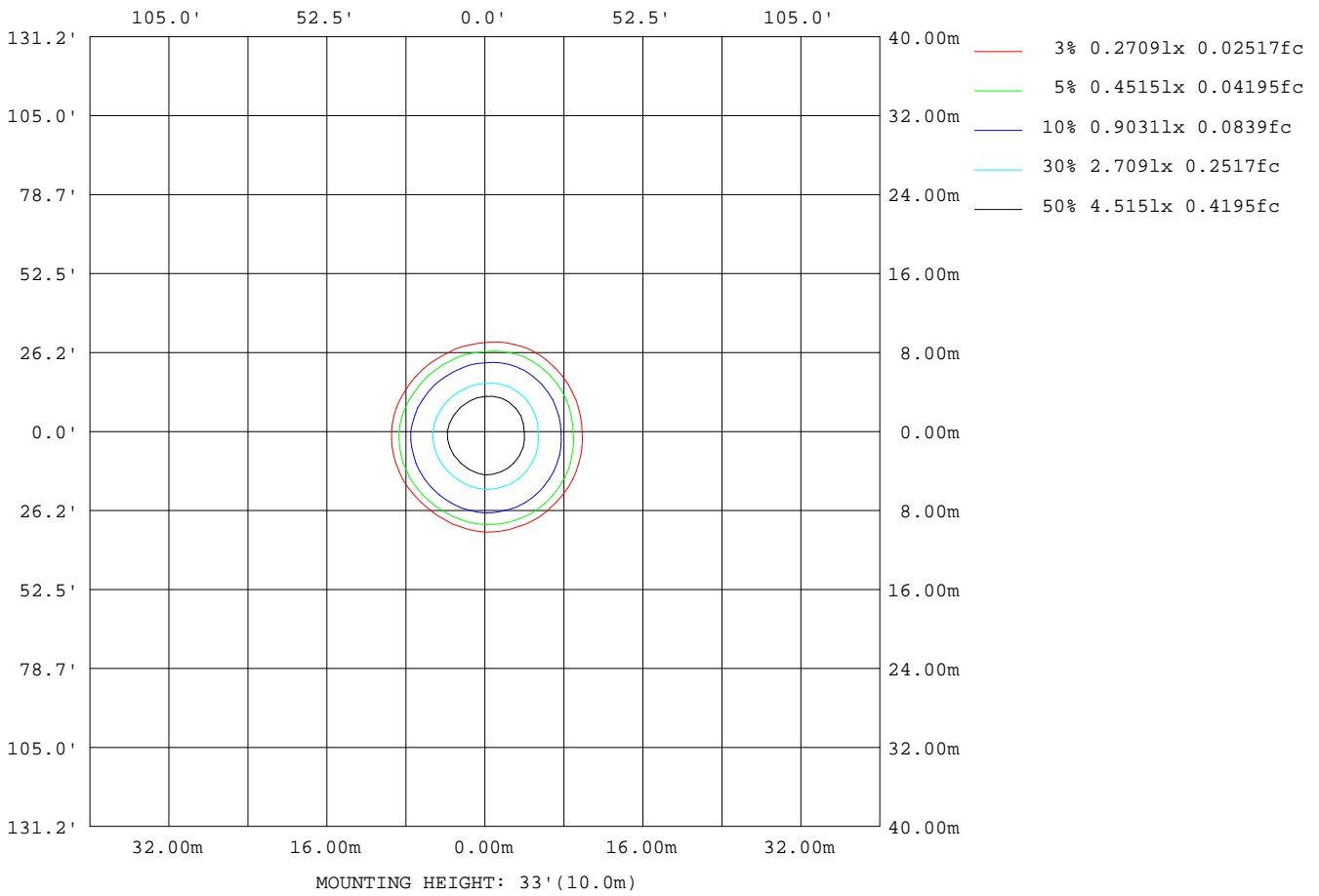
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-10-19

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

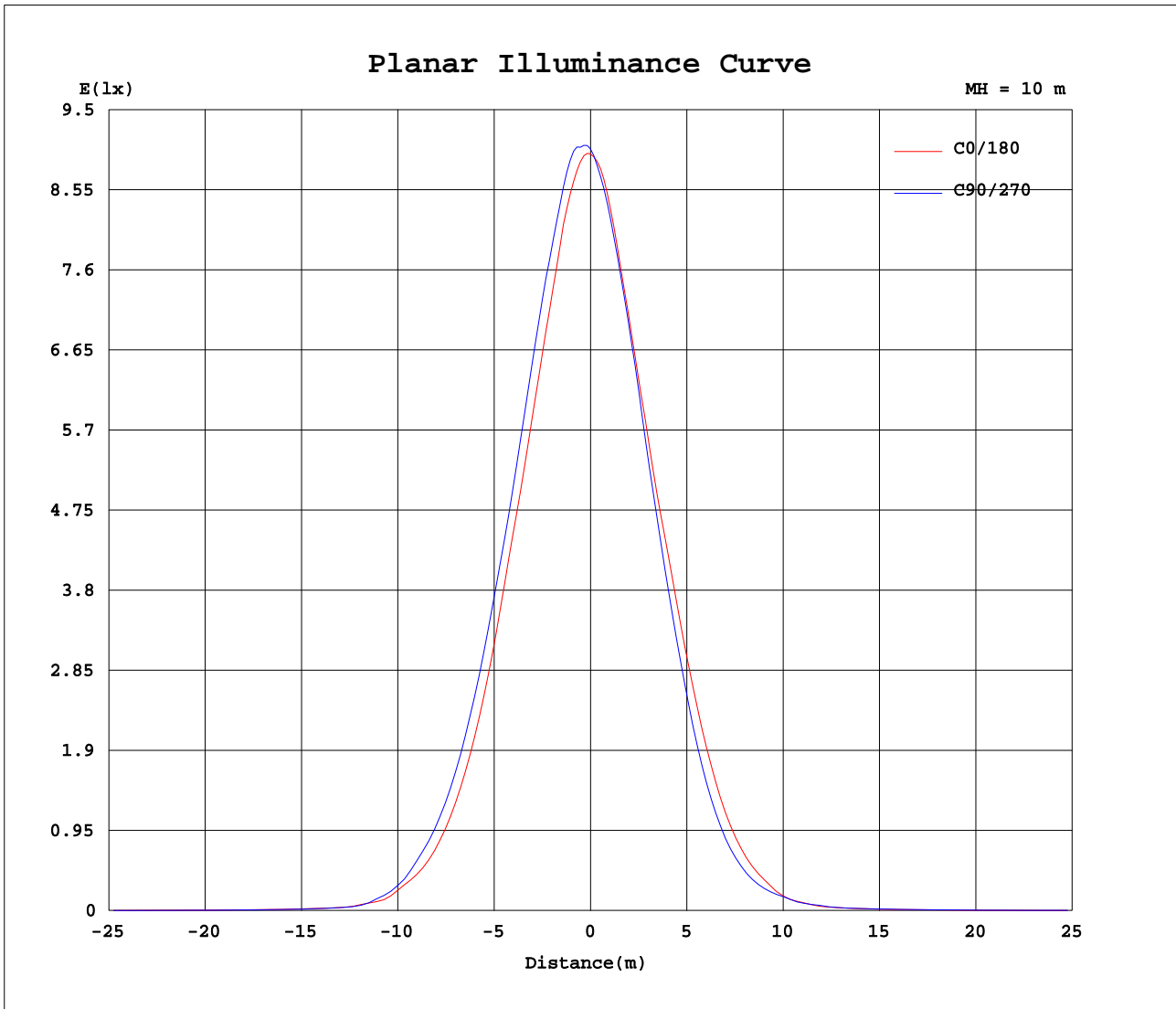
Test:U:240.2V I:0.0460A P:10.70W PF:0.9490 Lamp Flux:702.524x1 lm		
NAME: DL10WCOB-AG-G-WW	TYPE:10W	WEIGHT:
DIM.:	SPEC.:2700K	SERIAL No.:1
MFR.:	SUR.:0.0058	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-10-19

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: 2019-10-19

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:240.2V I:0.0460A P:10.70W PF:0.9490 Lamp Flux:702.524x1 lm		
NAME: DL10WCOB-AG-G-WW	TYPE:10W	WEIGHT:
DIM.:	SPEC.:2700K	SERIAL No.:1
MFR.:	SUR.:0.0058	PROTECTION ANGLE:

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330								
0	903	903	903	903	903	903	903	903	903	903	903	903								
5	880	905	916	910	891	878	865	848	841	847	867	877								
10	803	843	867	854	819	789	774	741	739	760	791	800								
15	708	752	773	776	725	692	675	637	625	651	685	702								
20	602	650	674	671	610	581	570	530	511	528	569	595								
25	487	537	565	557	505	477	461	411	384	399	443	474								
30	355	411	440	430	382	356	336	282	252	266	313	342								
35	234	282	308	299	262	235	213	167	145	156	195	218								
40	135	168	189	184	156	138	118	87.3	75.9	82.6	108	125								
45	69.0	85.1	89.2	84.7	61.9	56.2	49.4	39.2	37.9	46.6	57.2	62.6								
50	27.3	30.7	30.6	23.8	17.1	16.3	19.4	17.5	17.7	23.3	28.2	29.9								
55	13.0	13.1	13.2	12.1	10.3	10.4	11.7	11.1	11.6	12.4	14.0	13.5								
60	8.42	8.19	7.73	6.93	6.13	6.26	7.10	7.10	7.64	8.60	9.75	9.28								
65	4.93	4.74	4.23	3.65	2.99	3.10	4.08	4.12	4.57	5.48	6.09	5.83								
70	2.78	2.29	1.90	1.70	1.65	1.87	2.41	2.79	3.23	3.58	3.68	3.34								
75	2.16	1.79	1.39	1.24	1.05	1.28	1.75	2.04	2.33	2.80	2.90	2.70								
80	1.37	1.08	0.63	0.61	0.26	0.60	0.97	1.17	1.07	1.83	1.63	1.84								
85	0.49	0.32	0.10	0.00	0.00	0.00	0.14	0.20	0.25	0.70	0.79	0.87								
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-10-19
 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: