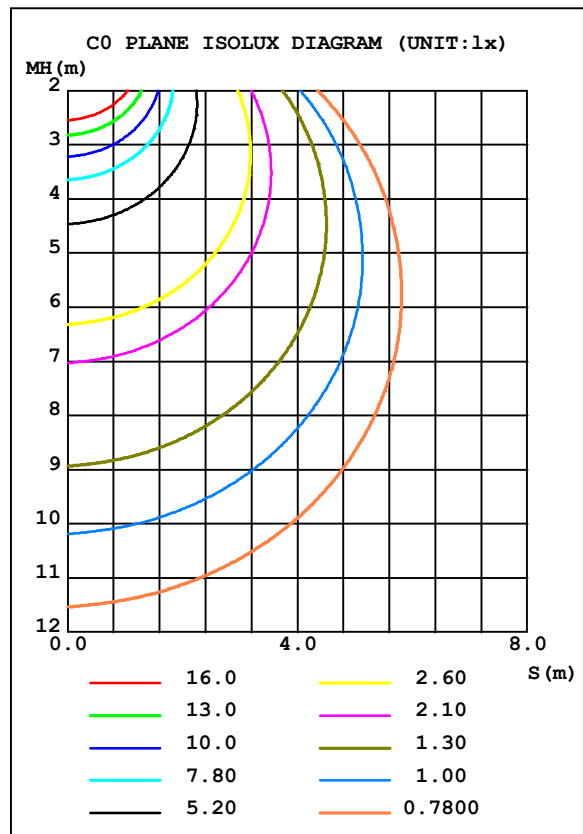
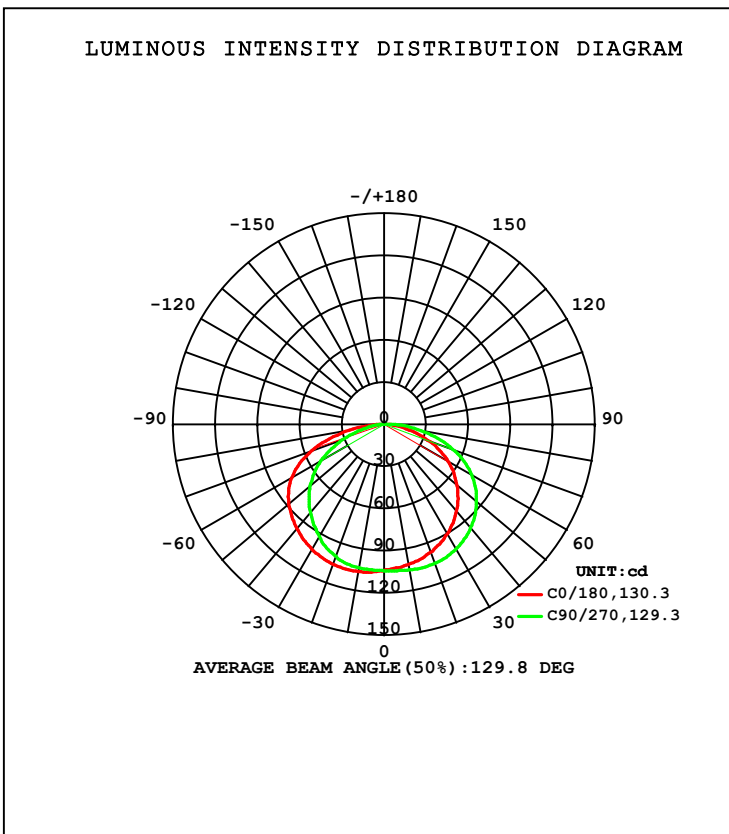


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:23.997V I:0.2715A P:6.5152W PF:1.0000 Freq:49.99Hz Lamp Flux:369.823x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 56.76 lm/W			
MODEL	TF5RGB-480	I _{max} (cd)	106.4	S/MH (C0/180)	1.47
NOMINAL POWER (W)	18.43	LOR (%)	100.0	S/MH (C90/270)	1.31
RATED VOLTAGE (V)	24	TOTAL FLUX (lm)	369.82	η UP, DN (C0-180)	0.5, 49.5
NOMINAL FLUX (lm)	369.823	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.4, 49.6
LAMPS INSIDE	1	η up (%)	0.9	CIBSE SHR NOM	1.50
TEST VOLTAGE (V)	24	η down (%)	99.1	CIBSE SHR MAX	1.55



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: LJ
 Test Date: 2020-07-15

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.366
 Humidity: 65.0%
 Test Distance: 9.150m [K=1.0000]
 Remarks: G

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

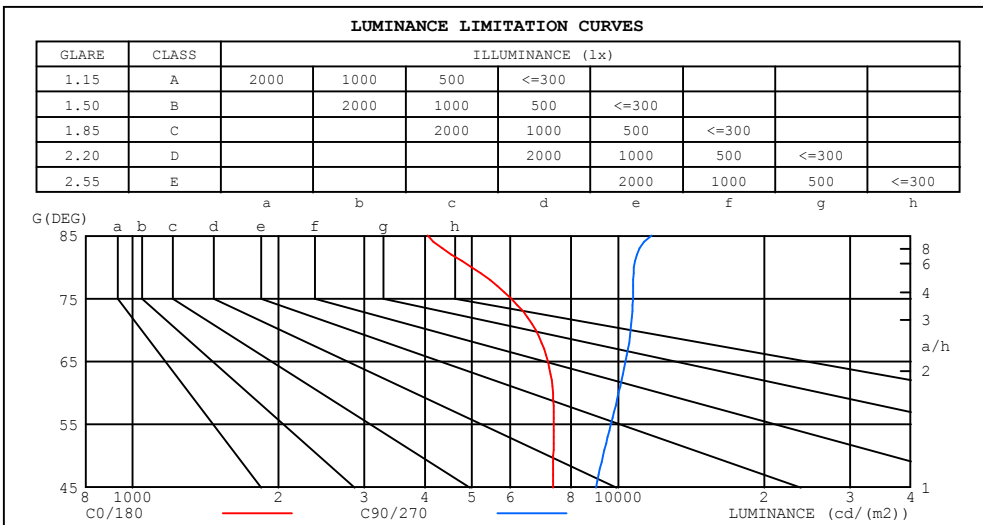
γ	C0	C90	C180	C270					γ	Φ zone	Φ total	%lum, lamp
10	101.3	105.2	106.3	103.7					0- 10	9.940	9.940	2.69,2.69
20	96.97	105.3	106.0	100.1					10- 20	29.28	39.22	10.6,10.6
30	90.07	102.5	102.8	92.24					20- 30	46.14	85.36	23.1,23.1
40	80.51	96.08	96.78	81.86					30- 40	58.36	143.7	38.9,38.9
50	67.94	85.97	88.42	68.95					40- 50	64.58	208.3	56.3,56.3
60	52.75	72.04	75.95	51.97					50- 60	63.49	271.8	73.5,73.5
70	33.23	52.18	54.70	30.37					60- 70	52.84	324.6	87.8,87.8
80	12.47	26.91	25.22	9.500					70- 80	32.21	356.8	96.5,96.5
90	0.3297	5.116	1.391	0.2822					80- 90	9.666	366.5	99.1,99.1
100	0.2243	0.1571	0.1739	0.2466					90-100	0.6232	367.1	99.3,99.3
110	0.3808	0.2582	0.2973	0.3924					100-110	0.2798	367.4	99.3,99.3
120	0.4989	0.3813	0.4209	0.5213					110-120	0.3893	367.8	99.5,99.5
130	0.6167	0.4882	0.5330	0.6224					120-130	0.4577	368.3	99.6,99.6
140	0.7008	0.5946	0.6281	0.6952					130-140	0.4752	368.7	99.7,99.7
150	0.7626	0.6841	0.6898	0.7681					140-150	0.4356	369.2	99.8,99.8
160	0.7995	0.7569	0.7515	0.8017					150-160	0.3476	369.5	99.9,99.9
170	0.8371	0.8187	0.8175	0.8399					160-170	0.2266	369.7	100,100
180	0.8467	0.8523	0.8467	0.8523					170-180	0.0797	369.8	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:LJ
 Test Date:2020-07-15

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
 Humidity:65.0%
 Test Distance:9.150m [K=1.0000]
 Remarks: G

LUMINANCE LIMITATION CURVES

Test:U:23.997V I:0.2715A P:6.5152W PF:1.0000 Freq:49.99Hz Lamp Flux:369.823x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	4054	11709
80	4997	10781
75	6025	10716
70	6759	10612
65	7165	10358
60	7339	10023
55	7371	9663
50	7353	9305
45	7337	8998

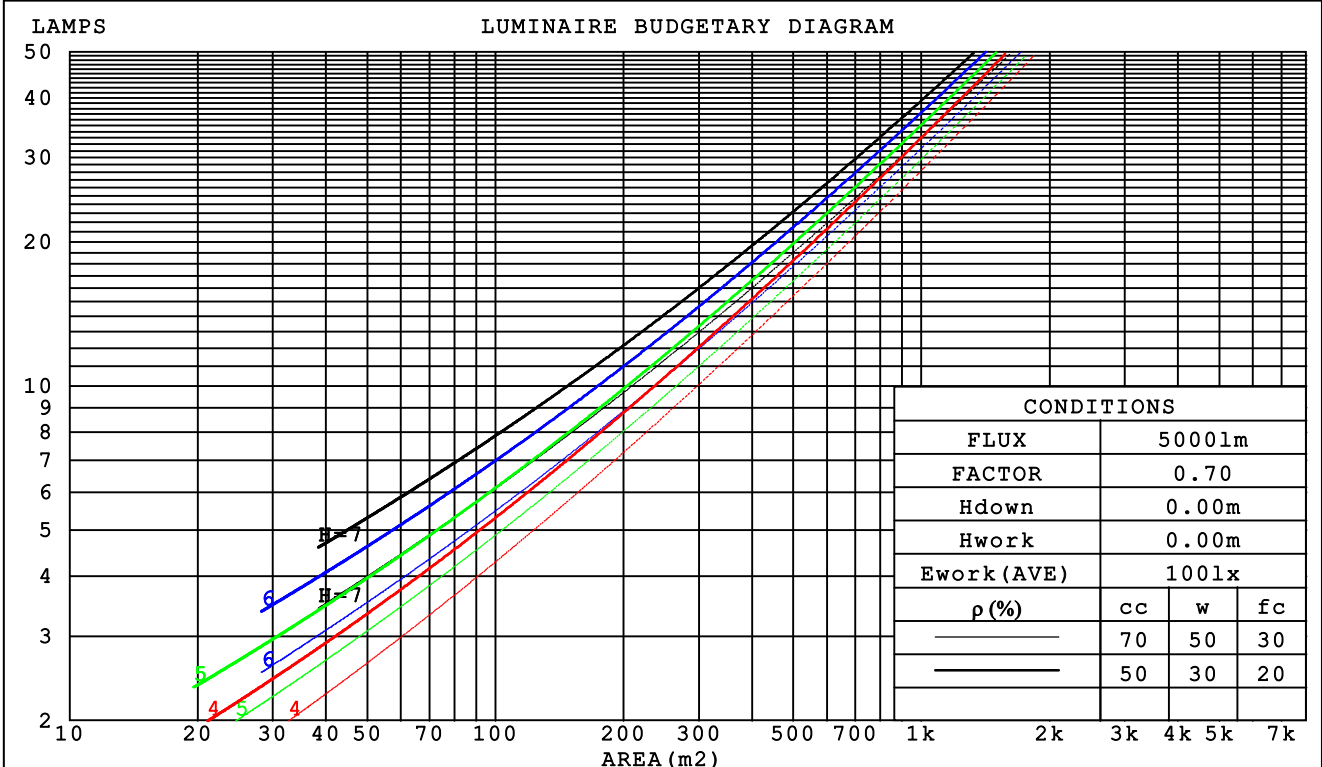
C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:LJ
 Test Date:2020-07-15

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
 Humidity:65.0%
 Test Distance:9.150m [K=1.0000]
 Remarks: G

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:23.997V I:0.2715A P:6.5152W PF:1.0000 Freq:49.99Hz Lamp Flux:369.823x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	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	1.01	1.01	1.01	.99
1.0	1.02	.98	.94	.90	.96	.92	.96	.92	.89	.91	.89	.86	.88	.85	.83	.81
2.0	.88	.81	.75	.86	.79	.74	.82	.77	.72	.79	.74	.70	.76	.72	.68	.66
3.0	.77	.68	.61	.75	.67	.60	.72	.65	.59	.69	.63	.58	.66	.61	.57	.55
4.0	.67	.58	.51	.66	.57	.51	.63	.56	.50	.61	.54	.49	.58	.53	.48	.46
5.0	.60	.50	.43	.59	.50	.43	.56	.49	.43	.54	.47	.42	.52	.46	.41	.39
6.0	.54	.44	.38	.53	.44	.37	.51	.43	.37	.49	.42	.36	.47	.41	.36	.34
7.0	.48	.39	.33	.47	.39	.33	.46	.38	.32	.44	.37	.32	.43	.37	.32	.30
8.0	.44	.35	.29	.43	.35	.29	.42	.34	.29	.40	.33	.28	.39	.33	.28	.26
9.0	.40	.32	.26	.40	.31	.26	.38	.31	.26	.37	.30	.25	.36	.30	.25	.23
10.0	.37	.29	.23	.36	.29	.23	.35	.28	.23	.34	.28	.23	.33	.27	.23	.21



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:LJ
 Test Date:2020-07-15

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
 Humidity:65.0%
 Test Distance:9.150m [K=1.0000]
 Remarks: G

WEC AND CCEC

Test:U:23.997V I:0.2715A P:6.5152W PF:1.0000 Freq:49.99Hz Lamp Flux:369.823x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding 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	.334	.190	.060	.327	.186	.059	.313	.180	.057	.300	.173	.056	.288	.167	.054	
2.0	.311	.171	.052	.305	.168	.052	.292	.162	.050	.281	.158	.049	.270	.153	.048	
3.0	.286	.152	.046	.280	.150	.045	.269	.146	.044	.259	.142	.043	.249	.138	.043	
4.0	.262	.136	.040	.257	.134	.040	.247	.131	.039	.238	.128	.039	.229	.125	.038	
5.0	.241	.123	.036	.236	.121	.035	.227	.118	.035	.219	.116	.034	.212	.113	.034	
6.0	.222	.111	.032	.218	.110	.032	.210	.108	.031	.203	.106	.031	.196	.103	.031	
7.0	.206	.102	.029	.202	.101	.029	.195	.099	.028	.189	.097	.028	.183	.095	.028	
8.0	.192	.094	.026	.189	.093	.026	.182	.091	.026	.176	.089	.026	.171	.088	.026	
9.0	.179	.087	.024	.176	.086	.024	.171	.084	.024	.165	.083	.024	.160	.081	.024	
10.0	.168	.081	.022	.165	.080	.022	.160	.079	.022	.156	.077	.022	.151	.076	.022	

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	.197	.197	.197	.169	.169	.169	.115	.115	.115	.066	.066	.066	.021	.021	.021	
1.0	.189	.163	.139	.162	.140	.120	.111	.096	.083	.064	.056	.048	.020	.018	.016	
2.0	.182	.139	.103	.156	.119	.089	.107	.083	.062	.062	.048	.036	.020	.016	.012	
3.0	.174	.121	.079	.150	.105	.069	.103	.073	.048	.059	.042	.028	.019	.014	.009	
4.0	.167	.108	.063	.143	.094	.055	.099	.065	.039	.057	.038	.023	.018	.012	.008	
5.0	.159	.098	.053	.137	.085	.046	.094	.059	.032	.055	.035	.019	.018	.011	.006	
6.0	.152	.090	.045	.131	.078	.039	.090	.054	.028	.052	.032	.016	.017	.010	.005	
7.0	.145	.083	.039	.125	.072	.034	.086	.050	.024	.050	.030	.014	.016	.010	.005	
8.0	.139	.077	.035	.119	.067	.031	.083	.047	.022	.048	.028	.013	.016	.009	.004	
9.0	.132	.072	.032	.114	.063	.028	.079	.044	.020	.046	.026	.012	.015	.009	.004	
10.0	.126	.068	.029	.109	.059	.025	.076	.042	.018	.044	.025	.011	.014	.008	.004	

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:LJ
 Test Date:2020-07-15

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
 Humidity:65.0%
 Test Distance:9.150m [K=1.0000]
 Remarks: G

UGR(Unified Glare Rating) Table

Test:U:23.997V I:0.2715A P:6.5152W PF:1.0000 Freq:49.99Hz Lamp Flux:369.823x1 lm										
NAME:					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.:					SUR.:			Shielding 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	23.4	24.9	23.6	25.2	25.4	24.5	26.1	24.8	26.3	26.5
3H	25.0	26.4	25.3	26.7	26.9	26.6	28.1	26.9	28.3	28.6
4H	25.6	26.9	25.9	27.2	27.5	27.5	28.9	27.8	29.2	29.4
6H	25.9	27.2	26.3	27.5	27.8	28.2	29.6	28.6	29.8	30.1
8H	26.0	27.3	26.4	27.6	27.9	28.5	29.8	28.9	30.1	30.4
12H	26.0	27.3	26.4	27.6	27.9	28.8	30.0	29.1	30.3	30.6
4H 2H	24.2	25.6	24.6	25.9	26.2	25.1	26.5	25.4	26.8	27.1
3H	26.0	27.3	26.4	27.6	27.9	27.3	28.6	27.7	28.9	29.2
4H	26.7	27.9	27.1	28.2	28.6	28.4	29.5	28.8	29.9	30.2
6H	27.2	28.2	27.6	28.6	29.0	29.3	30.3	29.7	30.6	31.0
8H	27.4	28.3	27.8	28.7	29.1	29.6	30.6	30.1	31.0	31.4
12H	27.5	28.3	27.9	28.7	29.1	30.0	30.8	30.4	31.2	31.6
8H 4H	27.2	28.1	27.6	28.5	28.9	28.6	29.6	29.1	29.9	30.4
6H	27.9	28.6	28.3	29.1	29.5	29.7	30.5	30.1	30.9	31.3
8H	28.1	28.8	28.6	29.2	29.7	30.2	30.9	30.6	31.3	31.8
12H	28.3	28.9	28.8	29.3	29.8	30.6	31.2	31.1	31.7	32.2
12H 4H	27.3	28.1	27.7	28.5	29.0	28.6	29.5	29.1	29.9	30.3
6H	28.0	28.7	28.5	29.1	29.6	29.7	30.4	30.2	30.9	31.3
8H	28.3	28.9	28.8	29.4	29.8	30.3	30.9	30.7	31.3	31.8
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.2					+ 0.1 / - 0.1				
1.5H	+ 0.2 / - 0.4					+ 0.1 / - 0.2				
2.0H	+ 0.2 / - 0.5					+ 0.2 / - 0.3				

CIE Pub.117, 369.8 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -3.5)

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:LJ
 Test Date:2020-07-15

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
 Humidity:65.0%
 Test Distance:9.150m [K=1.0000]
 Remarks: G

UTILIZATION FACTORS TABLE

Test:U:23.997V I:0.2715A P:6.5152W PF:1.0000 Freq:49.99Hz Lamp Flux:369.823x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

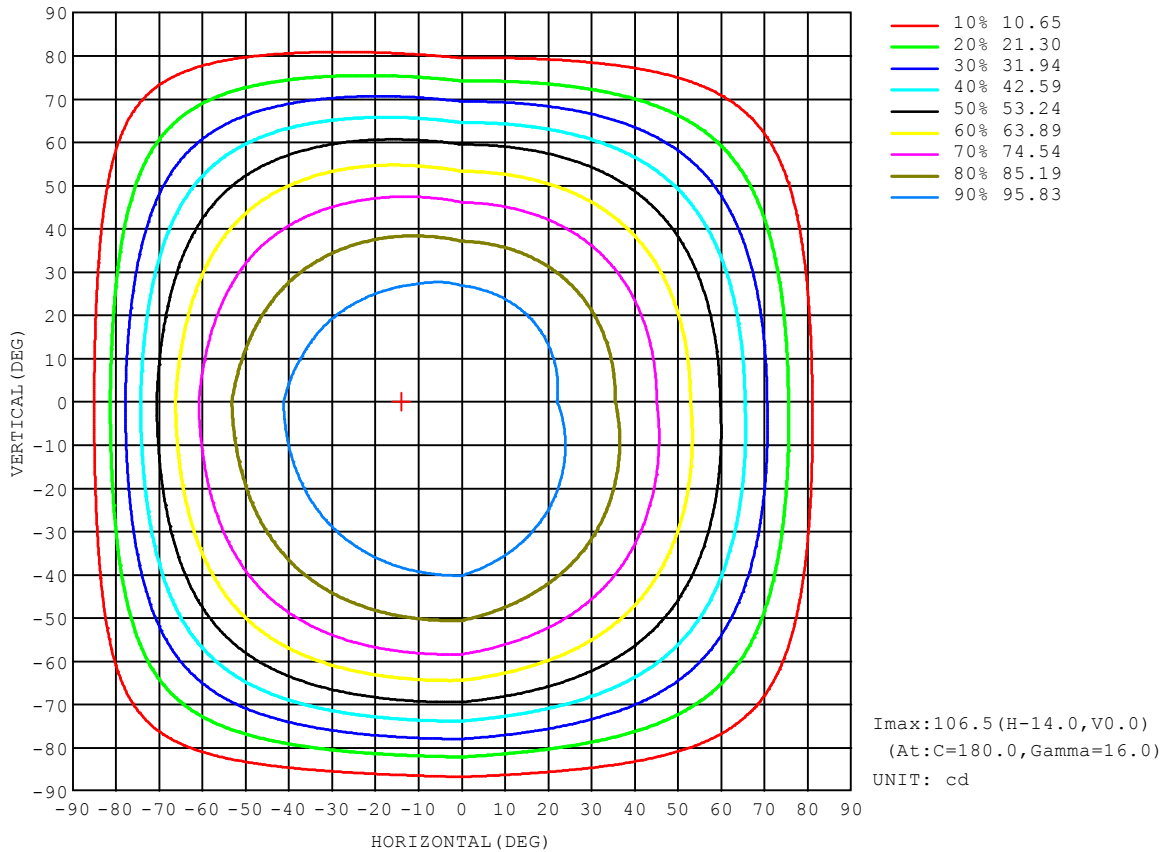
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	54	42	35	53	42	35	52	41	35	28
0.80	64	52	44	63	51	44	61	51	44	36
1.00	73	61	53	71	60	53	69	62	52	45
1.25	80	69	61	78	68	61	76	66	60	52
1.50	85	75	67	83	74	66	80	72	65	57
2.00	93	83	76	91	82	75	87	80	74	65
2.50	97	88	82	95	87	81	91	84	79	70
3.00	100	93	87	98	91	86	94	88	84	74
4.00	105	99	93	102	97	92	98	93	89	80
5.00	107	102	98	105	100	96	100	96	93	83
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:LJ
 Test Date:2020-07-15

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
 Humidity:65.0%
 Test Distance:9.150m [K=1.0000]
 Remarks: G

ISOCANDELA DIAGRAM

Test:U:23.997V I:0.2715A P:6.5152W PF:1.0000 Freq:49.99Hz Lamp Flux:369.823x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

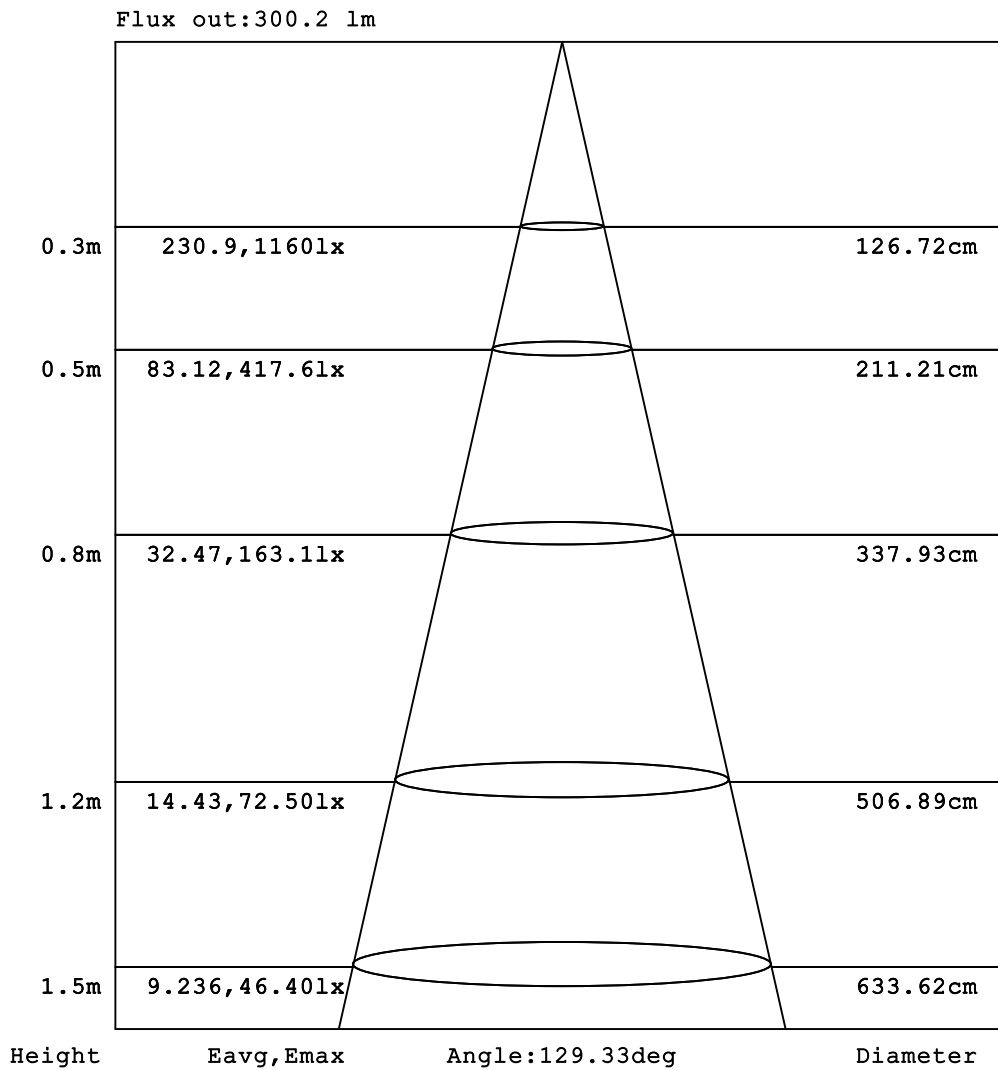


C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:LJ
 Test Date:2020-07-15

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
 Humidity:65.0%
 Test Distance:9.150m [K=1.0000]
 Remarks: G

AAI Figure

Test:U:23.997V I:0.2715A P:6.5152W PF:1.0000 Freq:49.99Hz Lamp Flux:369.823x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



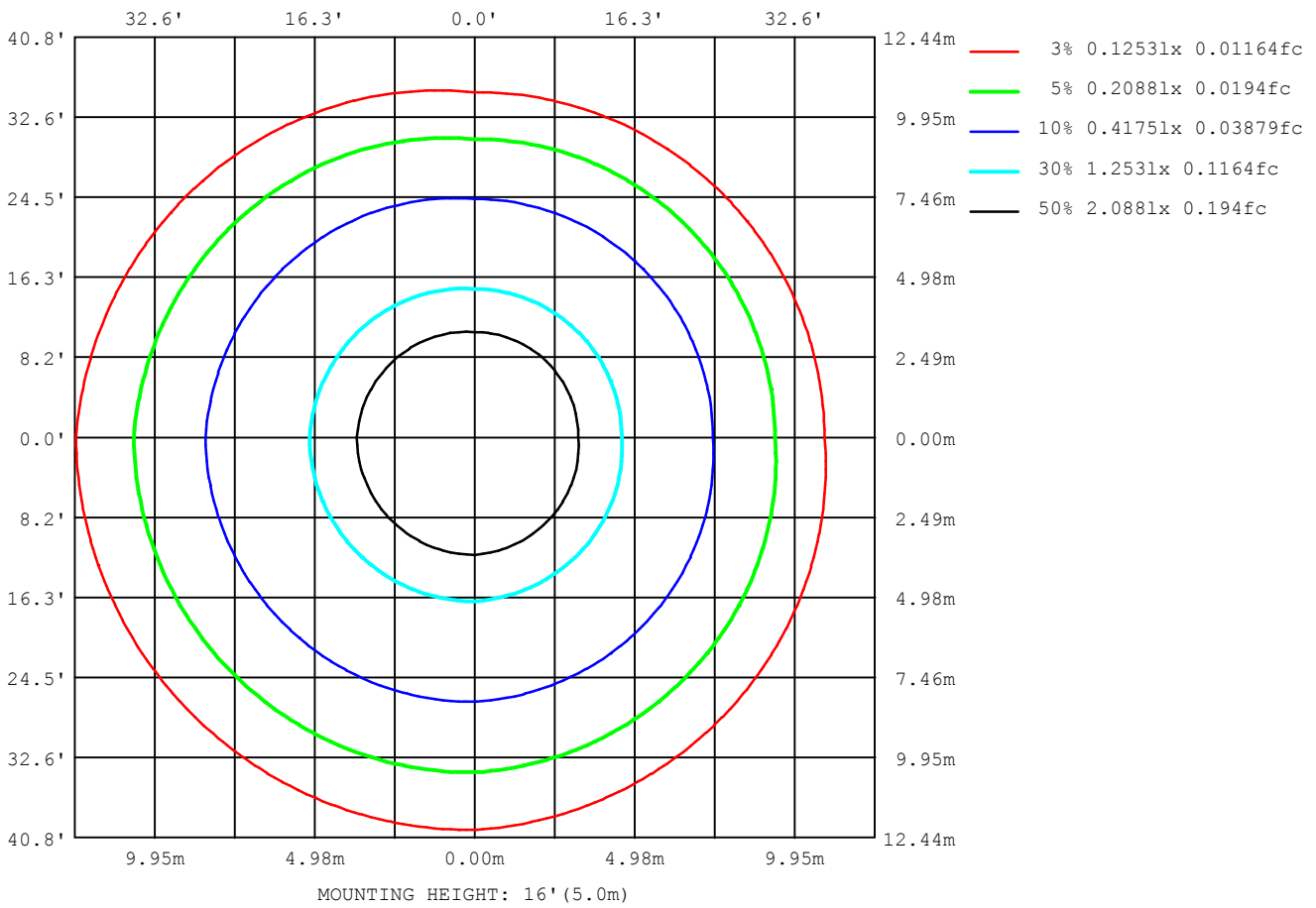
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:LJ
 Test Date:2020-07-15

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
 Humidity:65.0%
 Test Distance:9.150m [K=1.0000]
 Remarks: G

ISOLUX DIAGRAM

Test:U:23.997V I:0.2715A P:6.5152W PF:1.0000 Freq:49.99Hz Lamp Flux:369.823x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:LJ
 Test Date:2020-07-15

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
 Humidity:65.0%
 Test Distance:9.150m [K=1.0000]
 Remarks: G

LED Avg.L Report

Test:U:23.997V I:0.2715A P:6.5152W PF:1.0000 Freq:49.99Hz Lamp Flux:369.823x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

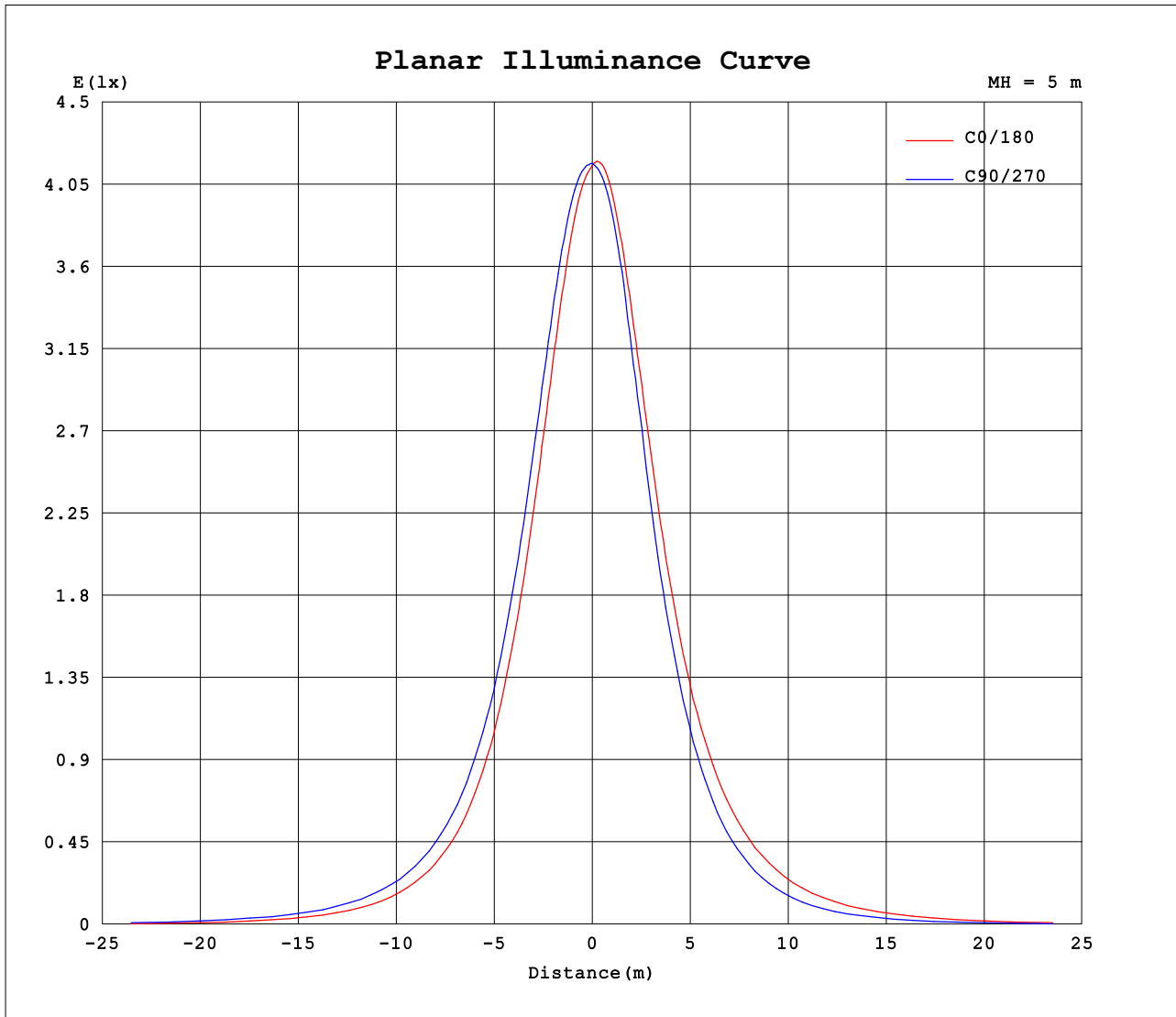
AvgL	cd/m2
L_0~180 (65) av	9058
L_0~180 (75) av	8459
L_0~180 (85) av	6301
L_90~270 (65) av	8582
L_90~270 (75) av	7950
L_90~270 (85) av	6951
L_45 (65) av	8879
L_45 (75) av	8293
L_45 (85) av	6848

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:LJ
 Test Date:2020-07-15

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
 Humidity:65.0%
 Test Distance:9.150m [K=1.0000]
 Remarks: G

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: LJ
 Test Date: 2020-07-15

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.366
 Humidity: 65.0%
 Test Distance: 9.150m [K=1.0000]
 Remarks: G

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:23.997V I:0.2715A P:6.5152W PF:1.0000 Freq:49.99Hz Lamp Flux:369.823x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	90	180	270															
0	104	104	104	104															
5	103	105	105	104															
10	101	105	106	104															
15	99.4	106	106	103															
20	97.0	105	106	100															
25	93.9	104	105	97.1															
30	90.1	103	103	92.2															
35	85.6	99.8	100	87.2															
40	80.5	96.1	96.8	81.9															
45	74.6	91.5	92.8	75.8															
50	67.9	86.0	88.4	69.0															
55	60.8	79.7	83.0	60.9															
60	52.8	72.0	76.0	52.0															
65	43.5	62.9	66.5	41.3															
70	33.2	52.2	54.7	30.4															
75	22.4	39.9	40.5	19.3															
80	12.5	26.9	25.2	9.50															
85	5.08	14.7	10.7	2.75															
90	0.33	5.12	1.39	0.28															
95	0.15	0.81	0.15	0.21															
100	0.22	0.16	0.17	0.25															
105	0.31	0.20	0.23	0.31															
110	0.38	0.26	0.30	0.39															
115	0.44	0.31	0.35	0.45															
120	0.50	0.38	0.42	0.52															
125	0.57	0.43	0.48	0.58															
130	0.62	0.49	0.53	0.62															
135	0.67	0.54	0.58	0.67															
140	0.70	0.59	0.63	0.70															
145	0.74	0.64	0.67	0.74															
150	0.76	0.68	0.69	0.77															
155	0.78	0.72	0.72	0.79															
160	0.80	0.76	0.75	0.80															
165	0.81	0.79	0.79	0.82															
170	0.84	0.82	0.82	0.84															
175	0.85	0.84	0.83	0.85															
180	0.85	0.85	0.85	0.85															

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:LJ
 Test Date:2020-07-15

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
 Humidity:65.0%
 Test Distance:9.150m [K=1.0000]
 Remarks: G