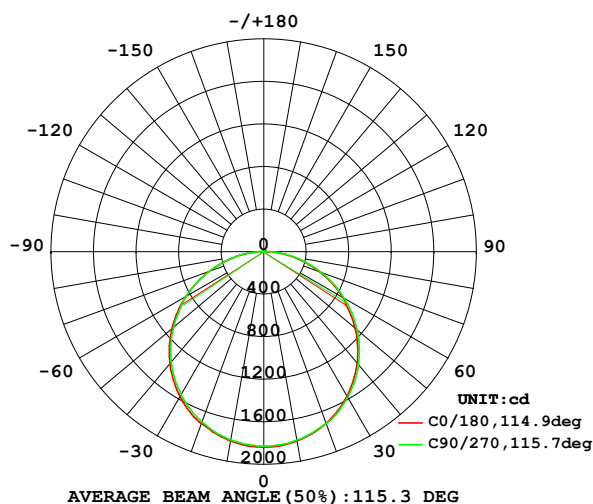


LUMINAIRE PHOTOMETRIC TEST REPORT

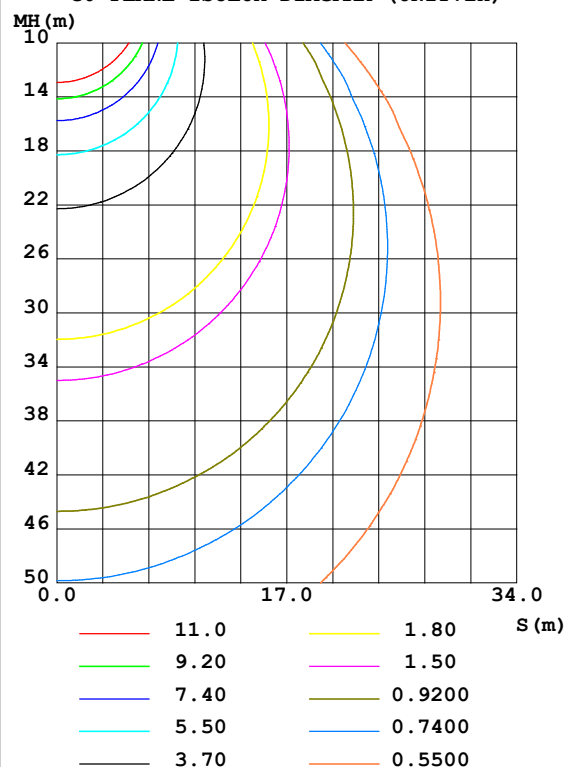
Test:U:120.5V I:0.3978A P:48.20W PF:0.9811 Lamp Flux:5537.4x1 lm		
NAME: LED panel light	TYPE:	WEIGHT:
SPEC.:PL603X1213 50W 3000K	DIM.:	SERIAL No.:1
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 114.88 lm/W			
MODEL		Imax(cd)	1838	S/MH(C0/180)	1.27
NOMINAL POWER(W)	50	LOR(%)	100.0	S/MH(C90/270)	1.26
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	5537.4	η UP,DN(C0-180)	0.5,50.0
NOMINAL FLUX(lm)	5537.4	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.4,49.0
LAMPS INSIDE	1	η up(%)	0.9	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	120	η down(%)	99.1	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Bonnie
Test Date:2017-10-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE G01900_V2(N) SYSTEM V2.0.295
Humidity:65.0%
Test Distance:8.690m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C90	C180	C270					γ	Φ zone	Φ total	%lum,lamp
10	1807	1801	1806	1796					0- 10	173.5	173.5	3.13,3.13
20	1716	1719	1719	1703					10- 20	498.2	671.7	12.1,12.1
30	1569	1581	1575	1555					20- 30	760.5	1432	25.9,25.9
40	1367	1386	1374	1355					30- 40	923.2	2355	42.5,42.5
50	1123	1147	1127	1109					40- 50	966.5	3322	60,60
60	860.3	873.0	847.2	844.9					50- 60	886.8	4209	76,76
70	560.9	578.3	548.4	545.9					60- 70	701.0	4910	88.7,88.7
80	266.4	286.5	256.5	250.4					70- 80	432.6	5342	96.5,96.5
90	15.30	27.01	9.915	5.749					80- 90	144.4	5487	99.1,99.1
100	5.182	5.204	4.231	4.542					90-100	5.154	5492	99.2,99.2
110	7.183	7.007	5.884	6.079					100-110	5.992	5498	99.3,99.3
120	8.942	8.212	7.341	7.358					110-120	7.215	5505	99.4,99.4
130	10.61	9.218	9.061	8.676					120-130	7.784	5513	99.6,99.6
140	11.73	10.20	10.10	9.951					130-140	7.697	5520	99.7,99.7
150	12.45	10.91	11.42	10.86					140-150	6.873	5527	99.8,99.8
160	12.98	11.42	12.45	11.47					150-160	5.438	5533	99.9,99.9
170	13.20	11.84	13.02	11.85					160-170	3.485	5536	100,100
180	13.19	12.02	13.28	11.96					170-180	1.197	5537	100,100
DEG	LUMINOUS INTENSITY:cd								UNIT:lm			

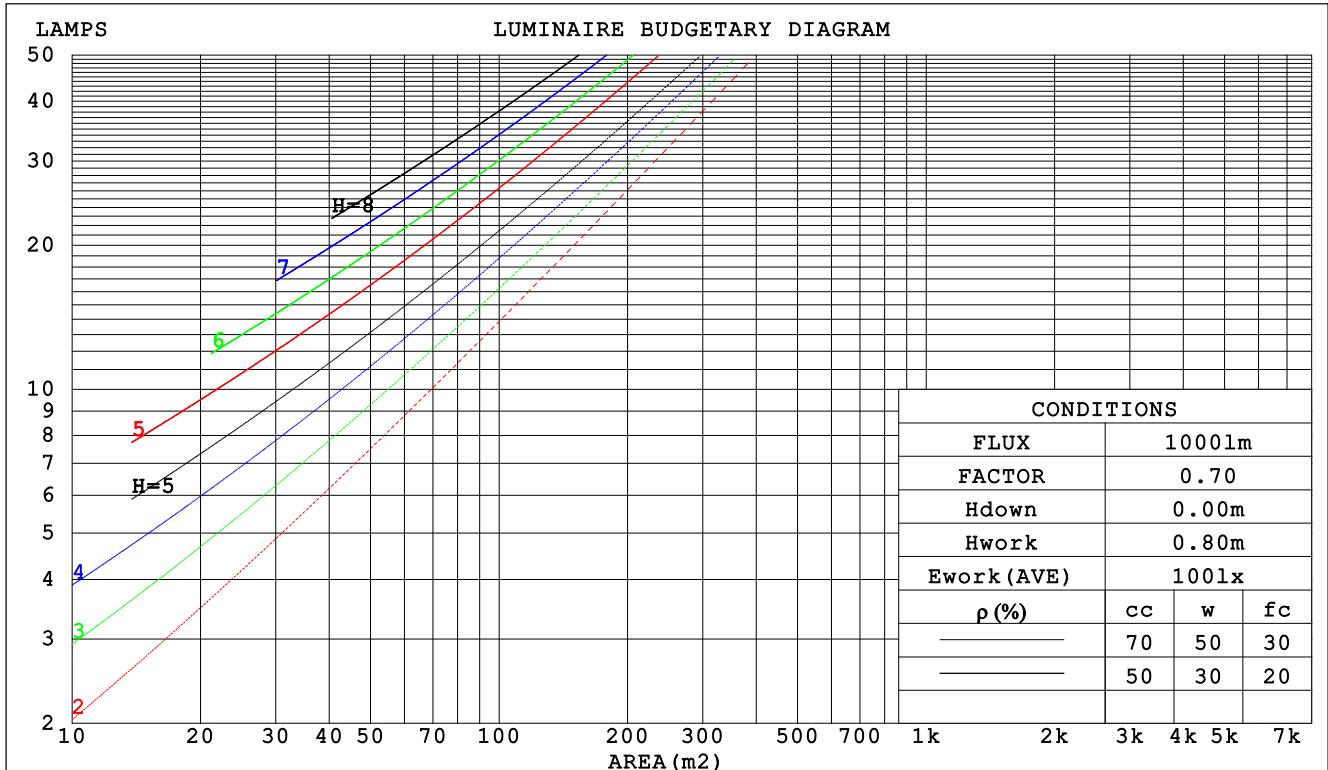
C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Bonnie
 Test Date:2017-10-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO1900_V2(N) SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.690m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:120.5V I:0.3978A P:48.20W PF:0.9811 Lamp Flux:5537.4x1 lm		
NAME: LED panel light	TYPE:	WEIGHT:
SPEC.:PL603X1213 50W 3000K	DIM.:	SERIAL No.:1
MFR.:	SUR.:	Shielding Angle:

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	1.19	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	1.03	.98	.94	1.01	.97	.93	.96	.93	.90	.92	.89	.87	.88	.86	.84	.82
2.0	.89	.82	.76	.87	.81	.75	.84	.78	.73	.80	.76	.72	.77	.73	.70	.68
3.0	.78	.70	.63	.77	.69	.62	.73	.67	.61	.70	.65	.60	.68	.63	.59	.57
4.0	.69	.60	.53	.68	.59	.53	.65	.58	.52	.63	.56	.51	.60	.55	.50	.48
5.0	.62	.52	.46	.60	.52	.45	.58	.51	.45	.56	.49	.44	.54	.48	.44	.41
6.0	.55	.46	.40	.54	.46	.39	.52	.45	.39	.51	.44	.39	.49	.43	.38	.36
7.0	.50	.41	.35	.49	.41	.35	.48	.40	.34	.46	.39	.34	.45	.39	.34	.32
8.0	.46	.37	.31	.45	.37	.31	.44	.36	.31	.42	.35	.31	.41	.35	.30	.28
9.0	.42	.34	.28	.41	.33	.28	.40	.33	.28	.39	.32	.27	.38	.32	.27	.25
10.0	.39	.31	.25	.38	.30	.25	.37	.30	.25	.36	.30	.25	.35	.29	.25	.23



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Bonnie
 Test Date:2017-10-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO1900_V2(N) SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.690m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:120.5V I:0.3978A P:48.20W PF:0.9811 Lamp Flux:5537.4x1 lm					
NAME: LED panel light			TYPE:		WEIGHT:
SPEC.:PL603X1213 50W 3000K			DIM.:		SERIAL No.:1
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						Wall Exitance Coefficients (WEC)										
0.0																	
1.0	.323	.184	.058	.316	.180	.057	.302	.173	.055	.289	.167	.053	.277	.161	.052		
2.0	.300	.165	.050	.294	.162	.050	.282	.157	.049	.270	.152	.047	.260	.147	.046		
3.0	.276	.147	.044	.270	.145	.044	.260	.141	.043	.249	.137	.042	.240	.133	.041		
4.0	.254	.132	.039	.249	.130	.038	.239	.127	.038	.230	.124	.037	.222	.120	.037		
5.0	.234	.119	.035	.229	.118	.034	.221	.115	.034	.213	.112	.033	.205	.110	.033		
6.0	.216	.108	.031	.212	.107	.031	.205	.105	.031	.198	.103	.030	.191	.100	.030		
7.0	.201	.099	.028	.197	.098	.028	.191	.096	.028	.184	.094	.027	.178	.093	.027		
8.0	.188	.092	.026	.184	.091	.026	.178	.089	.025	.172	.087	.025	.167	.086	.025		
9.0	.176	.085	.024	.173	.084	.024	.167	.083	.023	.162	.081	.023	.157	.080	.023		
10.0	.165	.079	.022	.162	.078	.022	.157	.077	.022	.153	.076	.022	.148	.074	.021		

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						Ceiling Cavity Exitance Coefficients (CCEC)									
0.0	.197	.197	.197	.169	.169	.169	.115	.115	.115	.066	.066	.066	.021	.021	.021	
1.0	.188	.163	.140	.161	.140	.121	.110	.096	.084	.063	.056	.049	.020	.018	.016	
2.0	.180	.139	.104	.155	.120	.090	.106	.083	.063	.061	.048	.037	.020	.016	.012	
3.0	.173	.121	.081	.148	.105	.070	.102	.073	.049	.059	.043	.029	.019	.014	.009	
4.0	.165	.108	.065	.142	.094	.056	.097	.065	.040	.056	.038	.023	.018	.012	.008	
5.0	.158	.098	.054	.135	.085	.047	.093	.059	.033	.054	.035	.020	.017	.011	.006	
6.0	.150	.090	.046	.129	.078	.040	.089	.054	.028	.052	.032	.017	.017	.010	.006	
7.0	.143	.083	.040	.123	.072	.035	.085	.050	.025	.050	.030	.015	.016	.010	.005	
8.0	.137	.077	.036	.118	.067	.031	.082	.047	.022	.047	.028	.013	.015	.009	.004	
9.0	.131	.072	.032	.113	.062	.028	.078	.044	.020	.045	.026	.012	.015	.009	.004	
10.0	.125	.068	.030	.108	.059	.026	.075	.041	.018	.044	.024	.011	.014	.008	.004	

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Bonnie
 Test Date:2017-10-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO1900_V2(N) SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.690m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:120.5V I:0.3978A P:48.20W PF:0.9811 Lamp Flux:5537.4x1 lm										
NAME: LED panel light					TYPE:			WEIGHT:		
SPEC.:PL603X1213 50W 3000K					DIM.:			SERIAL No.:1		
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	15.9	17.5	16.2	17.7	17.9	16.0	17.5	16.3	17.8	18.0
3H	17.6	19.0	17.9	19.3	19.5	17.7	19.1	18.0	19.4	19.6
4H	18.3	19.6	18.6	19.9	20.2	18.4	19.8	18.8	20.0	20.3
6H	18.8	20.1	19.2	20.4	20.7	19.0	20.3	19.4	20.6	20.9
8H	19.1	20.3	19.4	20.6	20.9	19.3	20.5	19.6	20.8	21.1
12H	19.2	20.4	19.6	20.7	21.0	19.4	20.6	19.8	20.9	21.3
4H 2H	16.6	17.9	16.9	18.2	18.5	16.6	18.0	17.0	18.3	18.5
3H	18.4	19.6	18.8	19.9	20.3	18.5	19.7	18.9	20.0	20.4
4H	19.3	20.4	19.7	20.7	21.1	19.4	20.5	19.8	20.8	21.2
6H	20.0	20.9	20.4	21.3	21.7	20.1	21.1	20.6	21.5	21.9
8H	20.3	21.2	20.7	21.5	21.9	20.4	21.3	20.9	21.7	22.1
12H	20.5	21.3	20.9	21.7	22.1	20.7	21.5	21.1	21.9	22.4
8H 4H	19.6	20.5	20.0	20.9	21.3	19.7	20.6	20.1	21.0	21.4
6H	20.5	21.2	21.0	21.7	22.1	20.6	21.4	21.1	21.8	22.3
8H	20.9	21.5	21.3	22.0	22.5	21.1	21.7	21.5	22.2	22.6
12H	21.2	21.8	21.7	22.2	22.7	21.4	22.0	21.9	22.5	23.0
12H 4H	19.6	20.5	20.1	20.9	21.3	19.7	20.6	20.2	21.0	21.4
6H	20.6	21.3	21.1	21.7	22.2	20.7	21.4	21.2	21.8	22.3
8H	21.0	21.6	21.5	22.1	22.6	21.2	21.8	21.7	22.2	22.7
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 5537 lm Total Lamp Luminous Flux. (8log(F/F0) = 5.9)

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Bonnie
 Test Date:2017-10-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO1900_V2(N) SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.690m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:120.5V I:0.3978A P:48.20W PF:0.9811 Lamp Flux:5537.4x1 lm		
NAME: LED panel light	TYPE:	WEIGHT:
SPEC.:PL603X1213 50W 3000K	DIM.:	SERIAL No.:1
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) $k(RI) \times RCR = 5$									
$k = 0.60$	56	45	38	56	44	37	54	44	37	31
0.80	66	54	47	65	54	47	63	53	46	39
1.00	75	63	56	73	63	56	71	64	55	48
1.25	82	71	64	80	70	63	77	69	62	55
1.50	87	77	69	85	76	69	82	74	68	60
2.00	94	85	78	92	84	77	88	81	76	68
2.50	98	90	83	96	88	82	92	85	80	72
3.00	101	94	88	99	92	87	95	89	85	76
4.00	105	99	95	103	98	93	98	94	90	81
5.00	108	103	99	105	101	97	101	97	94	84
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: Bonnie
 Test Date: 2017-10-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO1900_V2 (N) SYSTEM V2.0.295
 Humidity: 65.0%
 Test Distance: 8.690m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:120.5V I:0.3978A P:48.20W PF:0.9811 Lamp Flux:5537.4x1 lm		
NAME: LED panel light	TYPE:	WEIGHT:
SPEC.:PL603X1213 50W 3000K	DIM.:	SERIAL No.:1
MFR.:	SUR.:	Shielding Angle:

Conical surface Flux(90deg):

2841 lm

%lum = 51.3%

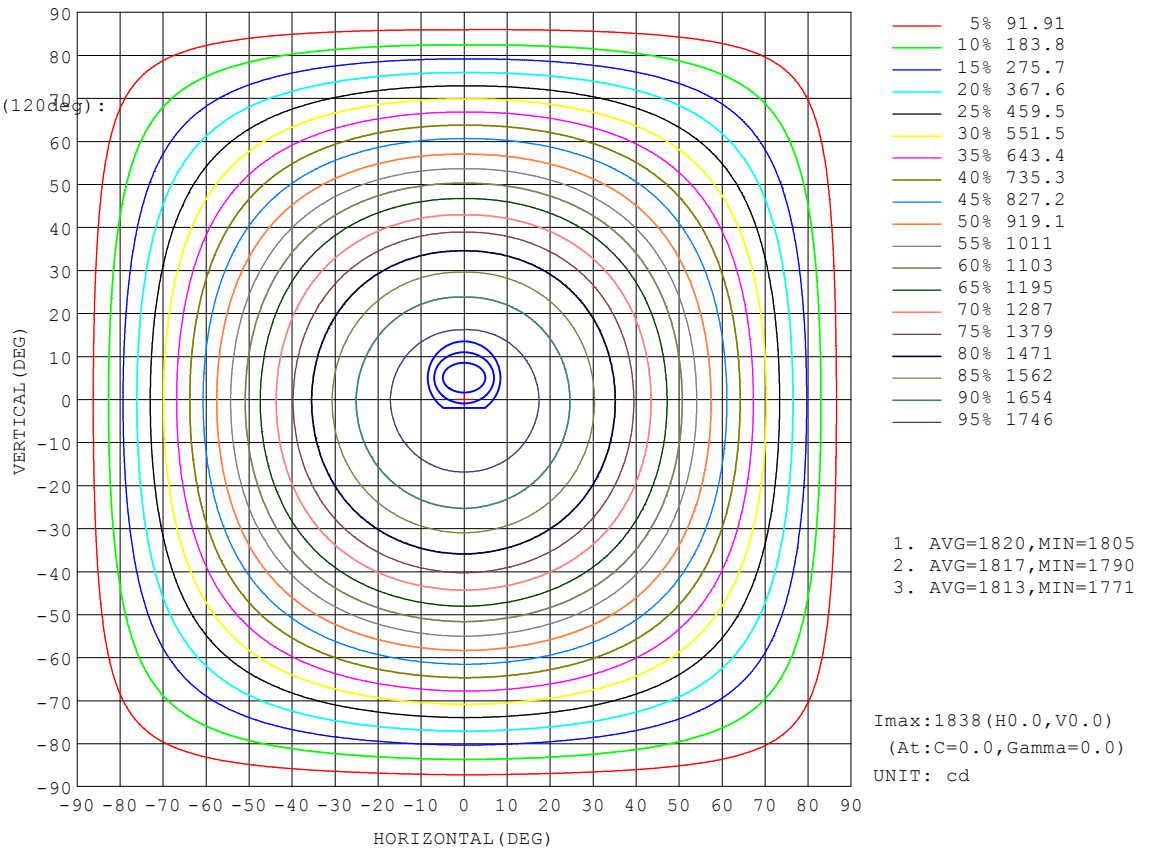
%lamp = 51.3%

Conical surface Flux(120deg):

4208.6 lm

%lum = 76.0%

%lamp = 76.0%

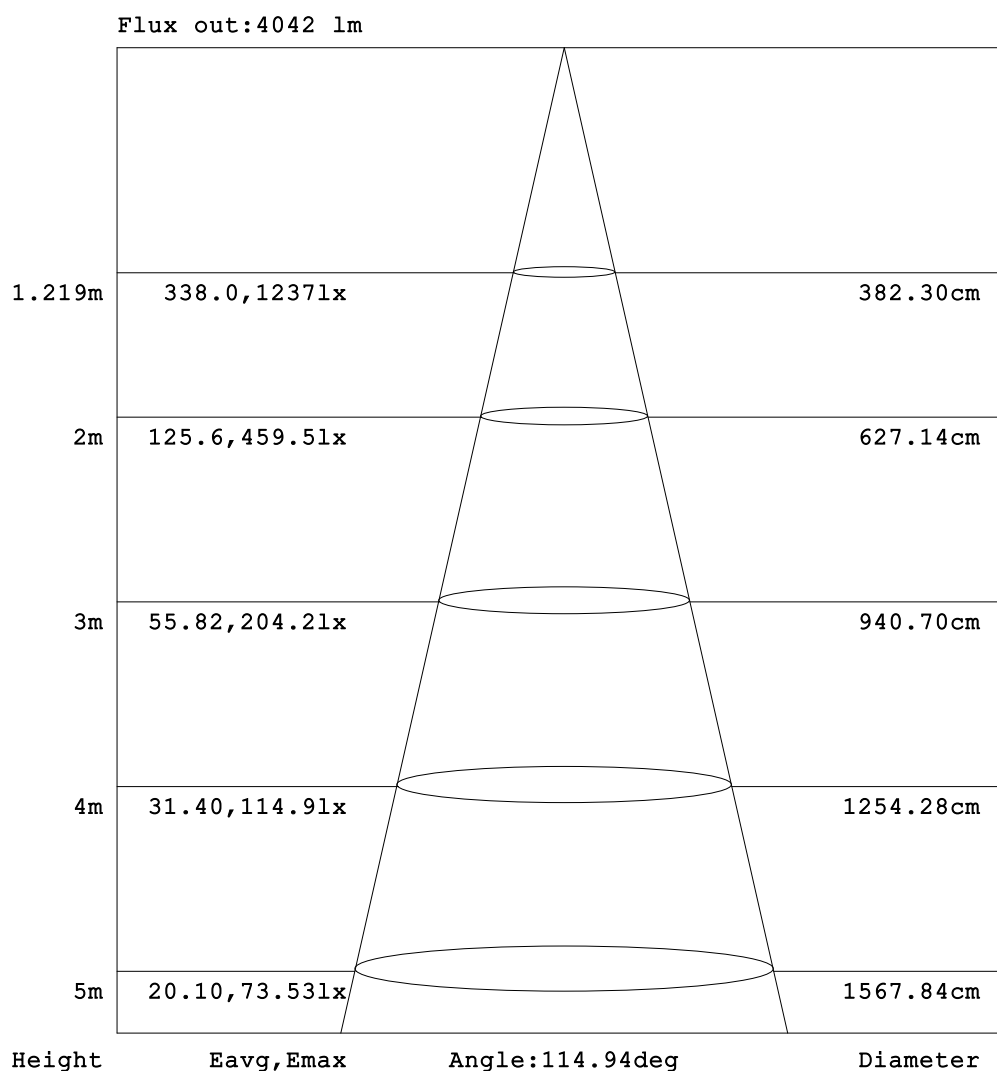


C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Bonnie
 Test Date:2017-10-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE G01900_V2(N) SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.690m [K=1.0000]
 Remarks:

AAI Figure

Test:U:120.5V I:0.3978A P:48.20W PF:0.9811 Lamp Flux:5537.4x1 lm		
NAME: LED panel light	TYPE:	WEIGHT:
SPEC.:PL603X1213 50W 3000K	DIM.:	SERIAL No.:1
MFR.:	SUR.:	Shielding Angle:



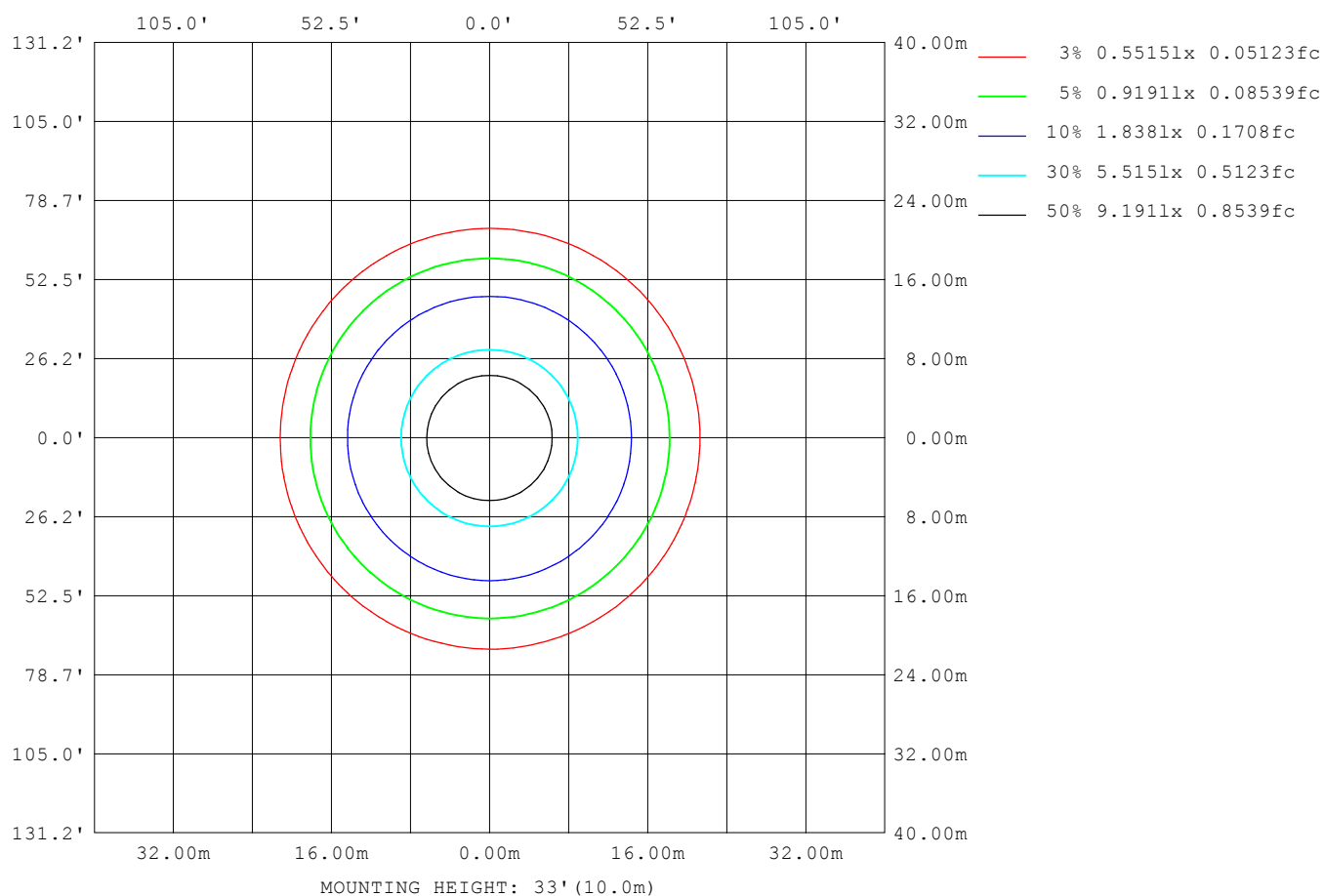
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Bonnie
 Test Date:2017-10-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO1900_V2(N) SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.690m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:120.5V I:0.3978A P:48.20W PF:0.9811 Lamp Flux:5537.4x1 lm		
NAME: LED panel light	TYPE:	WEIGHT:
SPEC.:PL603X1213 50W 3000K	DIM.:	SERIAL No.:1
MFR.:	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Bonnie
 Test Date:2017-10-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE G01900_V2(N) SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.690m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:120.5V I:0.3978A P:48.20W PF:0.9811 Lamp Flux:5537.4x1 lm		
NAME: LED panel light	TYPE:	WEIGHT:
SPEC.:PL603X1213 50W 3000K	DIM.:	SERIAL No.:1
MFR.:	SUR.:	Shielding Angle:

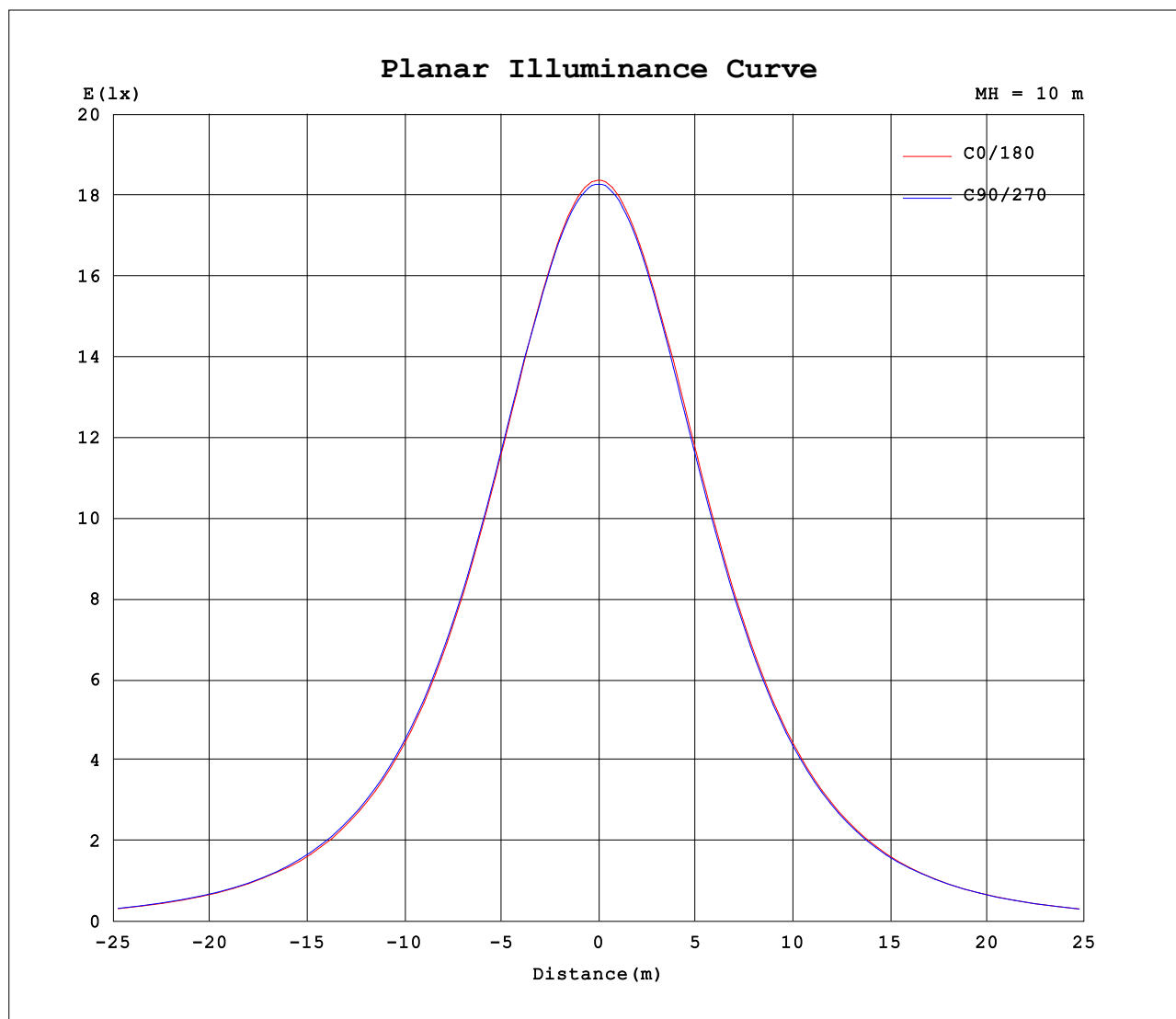
AvgL	cd/m2
L_0~180 (65) av	2318
L_0~180 (75) av	2175
L_0~180 (85) av	2026
L_90~270 (65) av	2339
L_90~270 (75) av	2216
L_90~270 (85) av	2111
L_45 (65) av	2330
L_45 (75) av	2199
L_45 (85) av	2075

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Bonnie
Test Date:2017-10-20

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G01900_V2(N) SYSTEM V2.0.295
Humidity:65.0%
Test Distance:8.690m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Bonnie
Test Date: 2017-10-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO1900_V2 (N) SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 8.690m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.5V I:0.3978A P:48.20W PF:0.9811 Lamp Flux:5537.4x1 lm		
NAME: LED panel light	TYPE:	WEIGHT:
SPEC.:PL603X1213 50W 3000K	DIM.:	SERIAL No.:1
MFR.:	SUR.:	Shielding Angle:

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	90	180	270															
0	1838	1828	1838	1828															
5	1831	1821	1830	1820															
10	1807	1801	1806	1796															
15	1769	1764	1767	1758															
20	1716	1719	1719	1703															
25	1648	1660	1656	1635															
30	1569	1581	1575	1555															
35	1473	1489	1479	1461															
40	1367	1386	1374	1355															
45	1250	1272	1255	1235															
50	1123	1147	1127	1109															
55	987	1014	991	972															
60	860	873	847	845															
65	711	727	699	697															
70	561	578	548	546															
75	411	430	400	395															
80	266	286	257	250															
85	131	151	123	114															
90	15.3	27.0	9.92	5.75															
95	4.17	4.23	3.42	3.78															
100	5.18	5.20	4.23	4.54															
105	6.18	6.13	5.08	5.31															
110	7.18	7.01	5.88	6.08															
115	8.08	7.67	6.60	6.78															
120	8.94	8.21	7.34	7.36															
125	9.86	8.68	8.27	7.97															
130	10.6	9.22	9.06	8.68															
135	11.2	9.71	9.56	9.34															
140	11.7	10.2	10.1	9.95															
145	12.1	10.6	10.7	10.4															
150	12.5	10.9	11.4	10.9															
155	12.8	11.2	12.0	11.2															
160	13.0	11.4	12.5	11.5															
165	13.1	11.7	12.8	11.7															
170	13.2	11.8	13.0	11.9															
175	13.2	11.9	13.2	12.0															
180	13.2	12.0	13.3	12.0															

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Bonnie
 Test Date:2017-10-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO1900_V2(N) SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.690m [K=1.0000]
 Remarks: