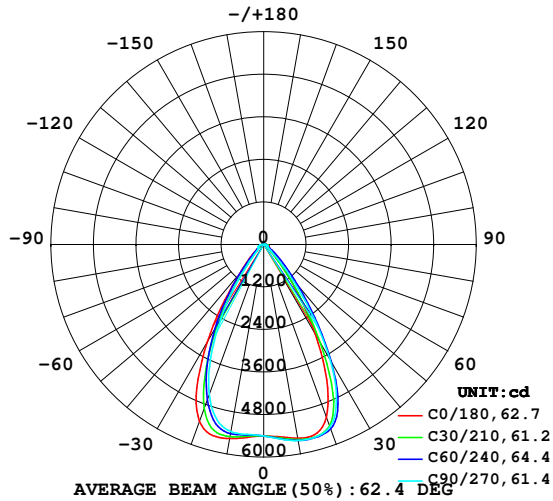


LUMINAIRE PHOTOMETRIC TEST REPORT

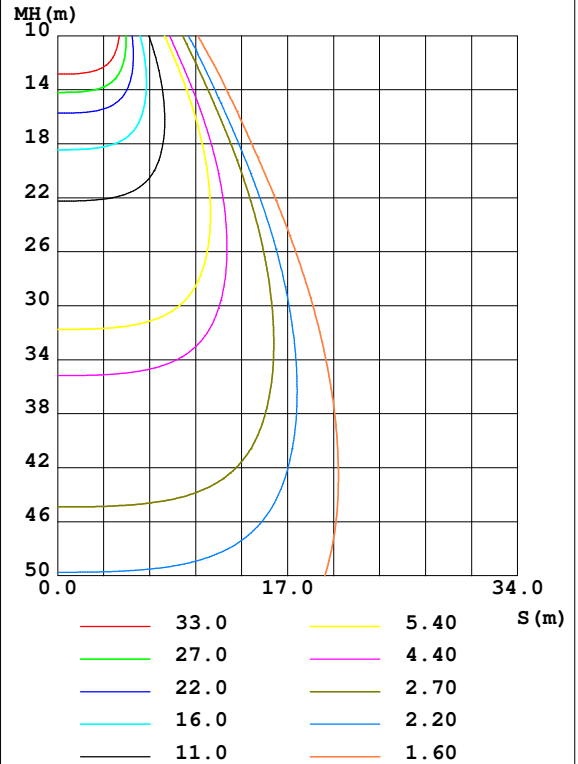
Test:U:230.36V I:0.1992A P:44.166W PF:0.9627 Freq:50.01Hz Lamp Flux:6031.24x1 lm		
NAME: TCE	TYPE:LED	WEIGHT:3.2kg
SPEC.:45W	DIM.: 68mmX1430mmx78mm	SERIAL No.:
MFR.: LITPA AYDINLATMA	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 136.56 lm/W			
MODEL	TCE	I _{max} (cd)	5653	S/MH (C0/180)	0.93
NOMINAL POWER (W)	45W	LOR (%)	100.0	S/MH (C90/270)	0.86
RATED VOLTAGE (V)	220.0	TOTAL FLUX (lm)	6031.2	η UP, DN (C0-180)	0.0, 53.6
NOMINAL FLUX (lm)	6031.24	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 46.4
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE (V)	220	η down (%)	100.0	CIBSE SHR MAX	0.95

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 20DEG
 Operators: LITPA
 Test Date: 18 April 2019

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.400
 Humidity: 65.0%
 Test Distance: 5.680m [K=1.0000]
 Remarks: TCE-45W-VS
 OT-60

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	5547	5602	5616	5624	5561	5461	5359	5423	0- 10	522.9	522.9	8.67,8.67
20	5181	5502	5479	5424	5307	4758	4501	4656	10- 20	1528	2051	34,34
30	2915	3557	3747	3566	3207	2654	2415	2629	20- 30	1921	3972	65.9,65.9
40	908.2	1166	1151	1152	1015	728.9	633.3	704.1	30- 40	1169	5141	85.2,85.2
50	313.9	344.7	216.3	341.4	347.4	219.5	205.6	217.2	40- 50	400.4	5541	91.9,91.9
60	154.1	156.1	113.8	154.5	155.1	164.0	183.7	169.0	50- 60	182.2	5724	94.9,94.9
70	136.8	104.5	77.12	96.61	126.4	147.4	166.1	157.7	60- 70	140.2	5864	97.2,97.2
80	95.99	74.65	36.53	64.31	87.41	88.25	80.21	101.6	70- 80	110.4	5974	99.1,99.1
90	38.87	33.85	3.305	29.49	36.68	32.55	4.323	37.67	80- 90	57.14	6031	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		

Conical surface Flux(90deg): 5392.8 lm

%lum = 89.4%

%lamp = 89.4%

Conical surface Flux(120deg): 5723.5 lm

%lum = 94.9%

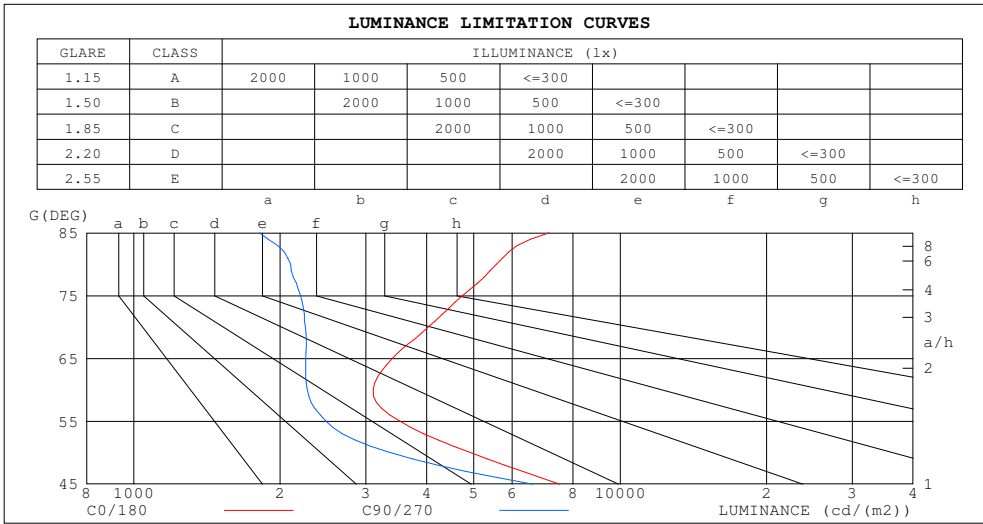
%lamp = 94.9%

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:20DEG
 Operators:LITPA
 Test Date:18 April 2019

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.400
 Humidity:65.0%
 Test Distance:5.680m [K=1.0000]
 Remarks: TCE-45W-VS
 OT-60

LUMINANCE LIMITATION CURVES

Test:U:230.36V I:0.1992A P:44.166W PF:0.9627 Freq:50.01Hz Lamp Flux:6031.24x1 lm		
NAME: TCE	TYPE:LED	WEIGHT:3.2kg
SPEC.:45W	DIM.: 68mmX1430mmx78mm	SERIAL No.:
MFR.: LITPA AYDINLATMA	SUR.:	Shielding Angle:



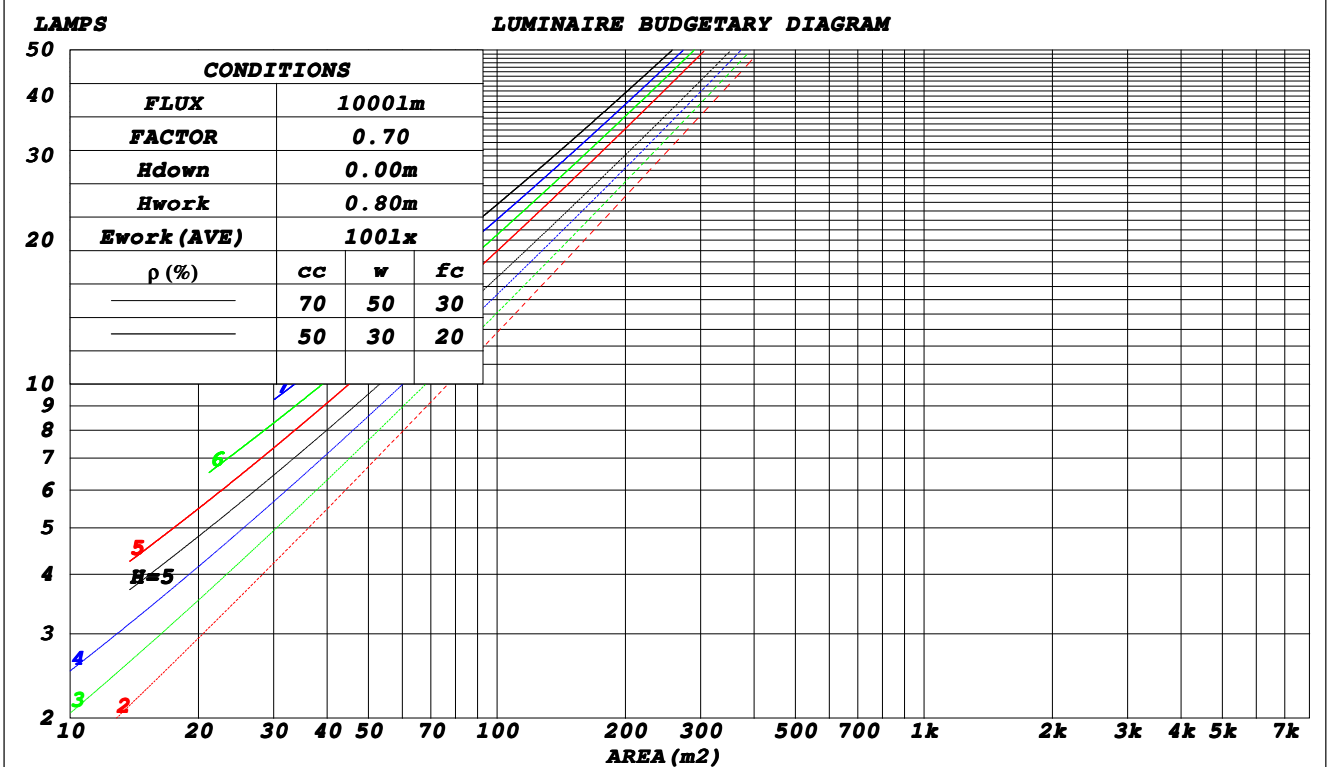
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 20DEG
Operators: LITPA
Test Date: 18 April 2019

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.400
Humidity: 65.0%
Test Distance: 5.680m [K=1.0000]
Remarks: TCE-45W-VS
OT-60

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.36V I:0.1992A P:44.166W PF:0.9627 Freq:50.01Hz Lamp Flux:6031.24x1 lm		
NAME: TCE	TYPE:LED	WEIGHT:3.2kg
SPEC.:45W	DIM.: 68mmX1430mmx78mm	SERIAL No.:
MFR.: LITPA AYDINLATMA	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															



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 20DEG
Operators: LITPA
Test Date: 18 April 2019

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.400
Humidity: 65.0%
Test Distance: 5.680m [K=1.0000]
Remarks: TCE-45W-VS
OT-60

WEC AND CCEC

Test:U:230.36V I:0.1992A P:44.166W PF:0.9627 Freq:50.01Hz Lamp Flux:6031.24x1 lm		
NAME: TCE	TYPE:LED	WEIGHT:3.2kg
SPEC.:45W	DIM.: 68mmX1430mmx78mm	SERIAL No.:
MFR.: LITPA AYDINLATMA	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						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.208	.118	.037	.201	.115	.036	.188	.108	.034	.176	.102	.033	.165	.096	.031		
2.0	.195	.107	.033	.189	.104	.032	.178	.099	.031	.168	.094	.030	.159	.090	.028		
3.0	.183	.097	.029	.178	.095	.029	.168	.091	.028	.160	.088	.027	.152	.084	.026		
4.0	.172	.089	.026	.168	.088	.026	.160	.085	.025	.152	.082	.025	.145	.079	.024		
5.0	.162	.083	.024	.159	.081	.024	.152	.079	.023	.145	.076	.023	.139	.074	.022		
6.0	.154	.077	.022	.150	.076	.022	.144	.074	.021	.138	.072	.021	.133	.070	.021		
7.0	.146	.072	.020	.143	.071	.020	.137	.069	.020	.132	.068	.020	.127	.066	.019		
8.0	.139	.068	.019	.136	.067	.019	.131	.066	.019	.127	.064	.019	.122	.063	.018		
9.0	.132	.064	.018	.130	.063	.018	.126	.062	.018	.121	.061	.017	.118	.060	.017		
10.0	.126	.061	.017	.124	.060	.017	.120	.059	.017	.117	.058	.016	.113	.057	.016		

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	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.173	.157	.142	.148	.135	.123	.101	.093	.085	.058	.054	.049	.019	.017	.016	
2.0	.159	.132	.110	.136	.114	.095	.093	.079	.066	.054	.046	.039	.017	.015	.013	
3.0	.148	.114	.087	.127	.098	.075	.087	.068	.053	.050	.040	.031	.016	.013	.010	
4.0	.138	.099	.070	.118	.086	.061	.081	.060	.043	.047	.035	.025	.015	.011	.008	
5.0	.129	.088	.057	.111	.076	.050	.077	.053	.035	.044	.031	.021	.014	.010	.007	
6.0	.122	.079	.048	.105	.068	.042	.072	.048	.029	.042	.028	.017	.014	.009	.006	
7.0	.115	.071	.040	.099	.062	.035	.069	.043	.025	.040	.026	.015	.013	.008	.005	
8.0	.110	.065	.035	.094	.057	.030	.065	.040	.021	.038	.023	.013	.012	.008	.004	
9.0	.104	.060	.030	.090	.052	.026	.062	.037	.019	.036	.022	.011	.012	.007	.004	
10.0	.100	.056	.026	.086	.048	.023	.060	.034	.016	.035	.020	.010	.011	.007	.003	

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 20DEG
 Operators: LITPA
 Test Date: 18 April 2019

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.400
 Humidity: 65.0%
 Test Distance: 5.680m [K=1.0000]
 Remarks: TCE-45W-VS
 OT-60

UGR(Unified Glare Rating) Table

Test:U:230.36V I:0.1992A P:44.166W PF:0.9627 Freq:50.01Hz Lamp Flux:6031.24x1 lm										
NAME: TCE					TYPE:LED			WEIGHT:3.2kg		
SPEC.:45W					DIM.: 68mmX1430mmx78mm			SERIAL No.:		
MFR.: LITPA AYDINLATMA					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	14.9	16.0	15.1	16.1	16.3	17.0	18.0	17.2	18.2	18.4
3H	15.6	16.5	15.8	16.8	17.0	17.1	18.0	17.3	18.2	18.4
4H	16.2	17.1	16.5	17.3	17.6	17.1	18.1	17.4	18.3	18.5
6H	17.0	17.9	17.3	18.1	18.4	17.2	18.1	17.5	18.3	18.6
8H	17.4	18.2	17.7	18.5	18.8	17.2	18.0	17.5	18.3	18.6
12H	17.8	18.6	18.1	18.9	19.1	17.2	18.0	17.5	18.3	18.6
4H 2H	15.0	15.9	15.3	16.1	16.3	16.9	17.8	17.2	18.0	18.2
3H	15.9	16.7	16.2	17.0	17.2	17.1	17.9	17.4	18.2	18.5
4H	16.8	17.5	17.1	17.8	18.1	17.3	18.0	17.7	18.3	18.6
6H	17.8	18.5	18.2	18.8	19.2	17.5	18.1	17.9	18.5	18.8
8H	18.4	19.0	18.8	19.3	19.7	17.6	18.2	18.0	18.5	18.9
12H	18.9	19.5	19.3	19.8	20.2	17.6	18.1	18.0	18.5	18.9
8H 4H	17.0	17.6	17.4	17.9	18.3	17.5	18.0	17.8	18.4	18.8
6H	18.4	18.9	18.8	19.3	19.7	17.8	18.3	18.2	18.7	19.1
8H	19.1	19.6	19.6	20.0	20.4	17.9	18.4	18.4	18.8	19.2
12H	19.9	20.3	20.4	20.7	21.2	18.1	18.4	18.5	18.9	19.4
12H 4H	17.0	17.5	17.4	17.9	18.3	17.5	18.1	17.9	18.4	18.8
6H	18.4	18.9	18.9	19.3	19.7	17.9	18.4	18.4	18.8	19.2
8H	19.3	19.7	19.8	20.1	20.6	18.2	18.5	18.6	19.0	19.4
Variations with the observer position at spacings:										
S = 1.0H	+ 0.8 / - 0.5					+ 1.4 / - 2.2				
1.5H	+ 1.6 / - 0.5					+ 2.8 / - 2.6				
2.0H	+ 1.0 / - 0.2					+ 1.8 / - 1.3				

UTILIZATION FACTORS TABLE

Test:U:230.36V I:0.1992A P:44.166W PF:0.9627 Freq:50.01Hz Lamp Flux:6031.24x1 lm		
NAME: TCE	TYPE:LED	WEIGHT:3.2kg
SPEC.:45W	DIM.: 68mmX1430mmx78mm	SERIAL No.:
MFR.: LITPA AYDINLATMA	SUR.:	Shielding Angle:

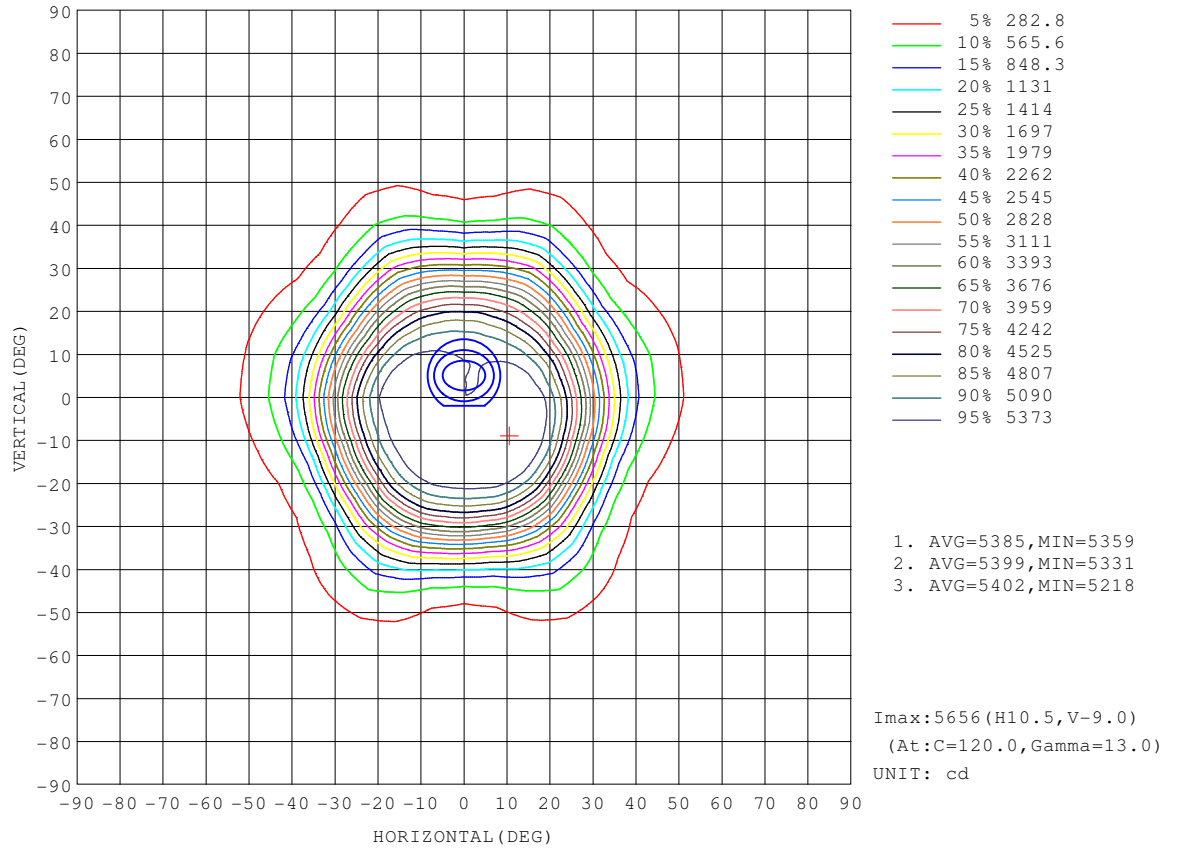
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	83	75	71	82	75	71	81	75	71	67
0.80	90	83	79	90	83	79	88	83	79	74
1.00	95	89	85	94	88	84	93	88	84	79
1.25	100	94	90	99	93	89	97	92	88	84
1.50	103	97	93	101	96	93	99	95	92	87
2.00	106	101	97	105	100	97	102	98	95	89
2.50	108	104	100	106	102	99	103	100	97	91
3.00	110	106	103	108	104	101	105	102	99	93
4.00	112	109	106	110	107	105	106	104	102	95
5.00	114	111	109	112	109	107	107	106	104	96
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 20DEG
 Operators: LITPA
 Test Date: 18 April 2019

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.400
 Humidity: 65.0%
 Test Distance: 5.680m [K=1.0000]
 Remarks: TCE-45W-VS
 OT-60

ISOCANDELA DIAGRAM

Test:U:230.36V I:0.1992A P:44.166W PF:0.9627 Freq:50.01Hz Lamp Flux:6031.24x1 lm		
NAME: TCE	TYPE:LED	WEIGHT:3.2kg
SPEC.:45W	DIM.: 68mmX1430mmx78mm	SERIAL No.:
MFR.: LITPA AYDINLATMA	SUR.:	Shielding Angle:



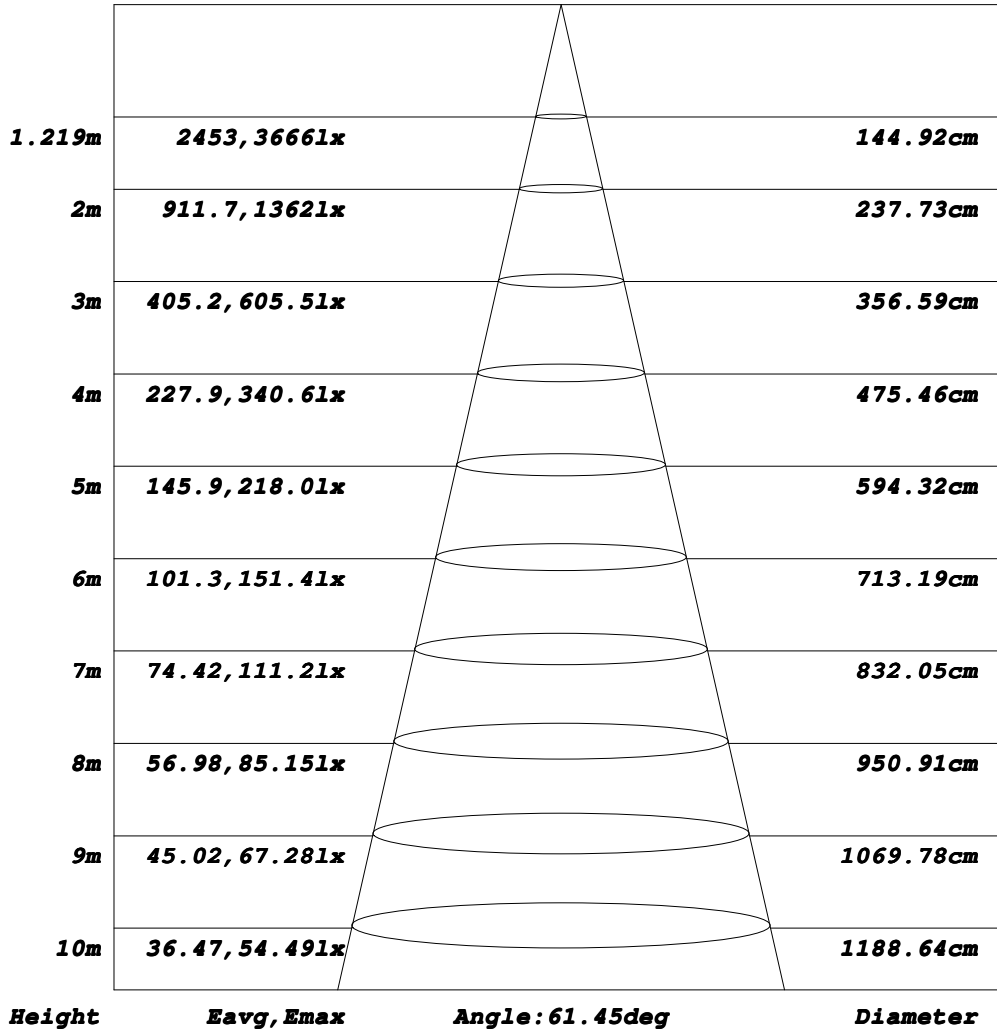
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:20DEG
Operators:LITPA
Test Date:18 April 2019

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.400
Humidity:65.0%
Test Distance:5.680m [K=1.0000]
Remarks: TCE-45W-VS
OT-60

AAI Figure

Test:U:230.36V I:0.1992A P:44.166W PF:0.9627 Freq:50.01Hz Lamp Flux:6031.24x1 lm		
NAME: TCE	TYPE:LED	WEIGHT:3.2kg
SPEC.:45W	DIM.: 68mmX1430mmx78mm	SERIAL No.:
MFR.: LITPA AYDINLATMA	SUR.:	Shielding Angle:

Flux out:4136 lm



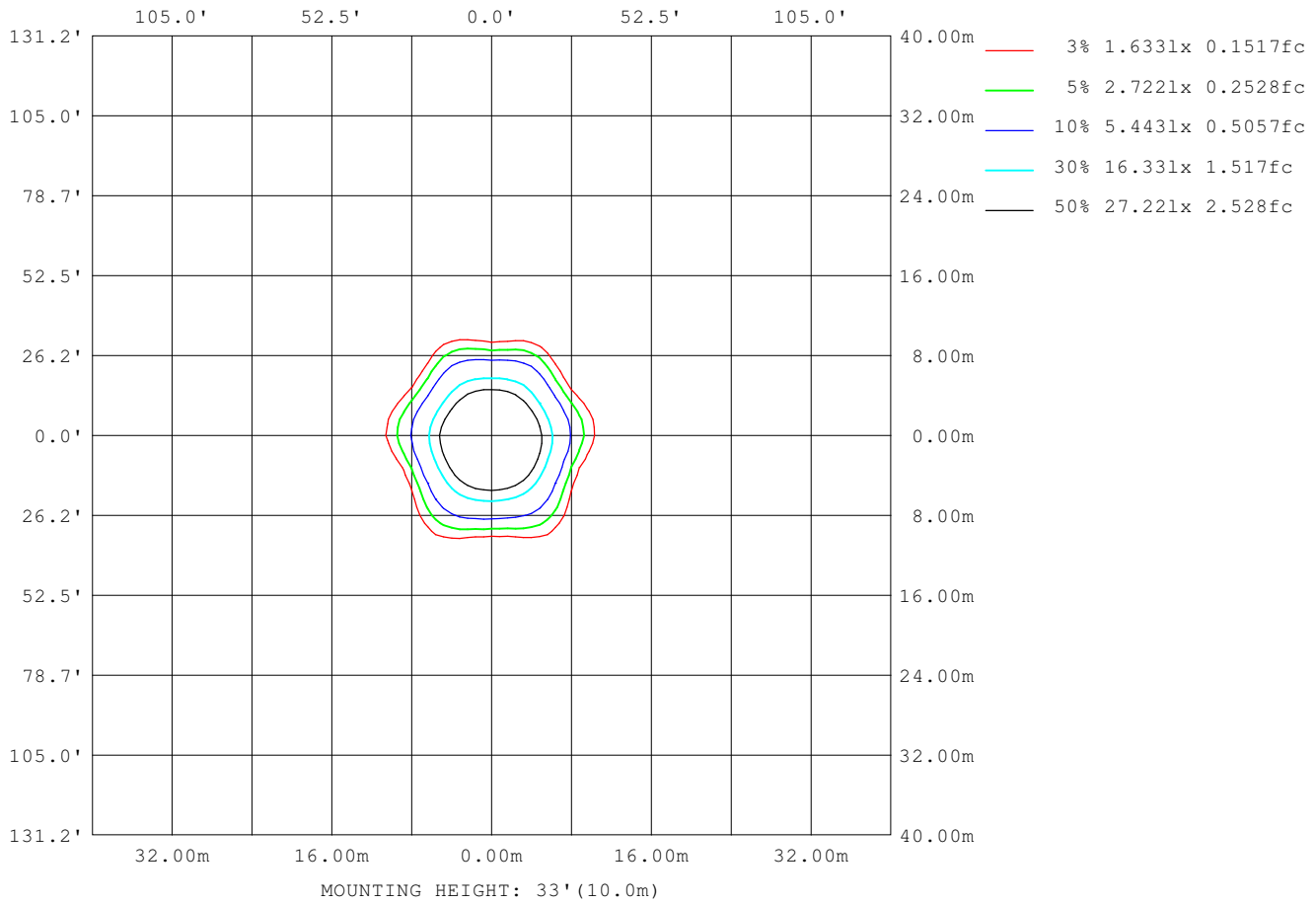
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 20DEG
Operators: LITPA
Test Date: 18 April 2019

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.400
Humidity: 65.0%
Test Distance: 5.680m [K=1.0000]
Remarks: TCE-45W-VS
OT-60

ISOLUX DIAGRAM

Test:U:230.36V I:0.1992A P:44.166W PF:0.9627 Freq:50.01Hz Lamp Flux:6031.24x1 lm		
NAME: TCE	TYPE:LED	WEIGHT:3.2kg
SPEC.:45W	DIM.: 68mmX1430mmx78mm	SERIAL No.:
MFR.: LITPA AYDINLATMA	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 20DEG
Operators: LITPA
Test Date: 18 April 2019

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.400
Humidity: 65.0%
Test Distance: 5.680m [K=1.0000]
Remarks: TCE-45W-VS
OT-60

LED Avg.L Report

Test:U:230.36V I:0.1992A P:44.166W PF:0.9627 Freq:50.01Hz Lamp Flux:6031.24x1 lm		
NAME: TCE	TYPE:LED	WEIGHT:3.2kg
SPEC.:45W	DIM.: 68mmX1430mmx78mm	SERIAL No.:
MFR.: LITPA AYDINLATMA	SUR.:	Shielding Angle:

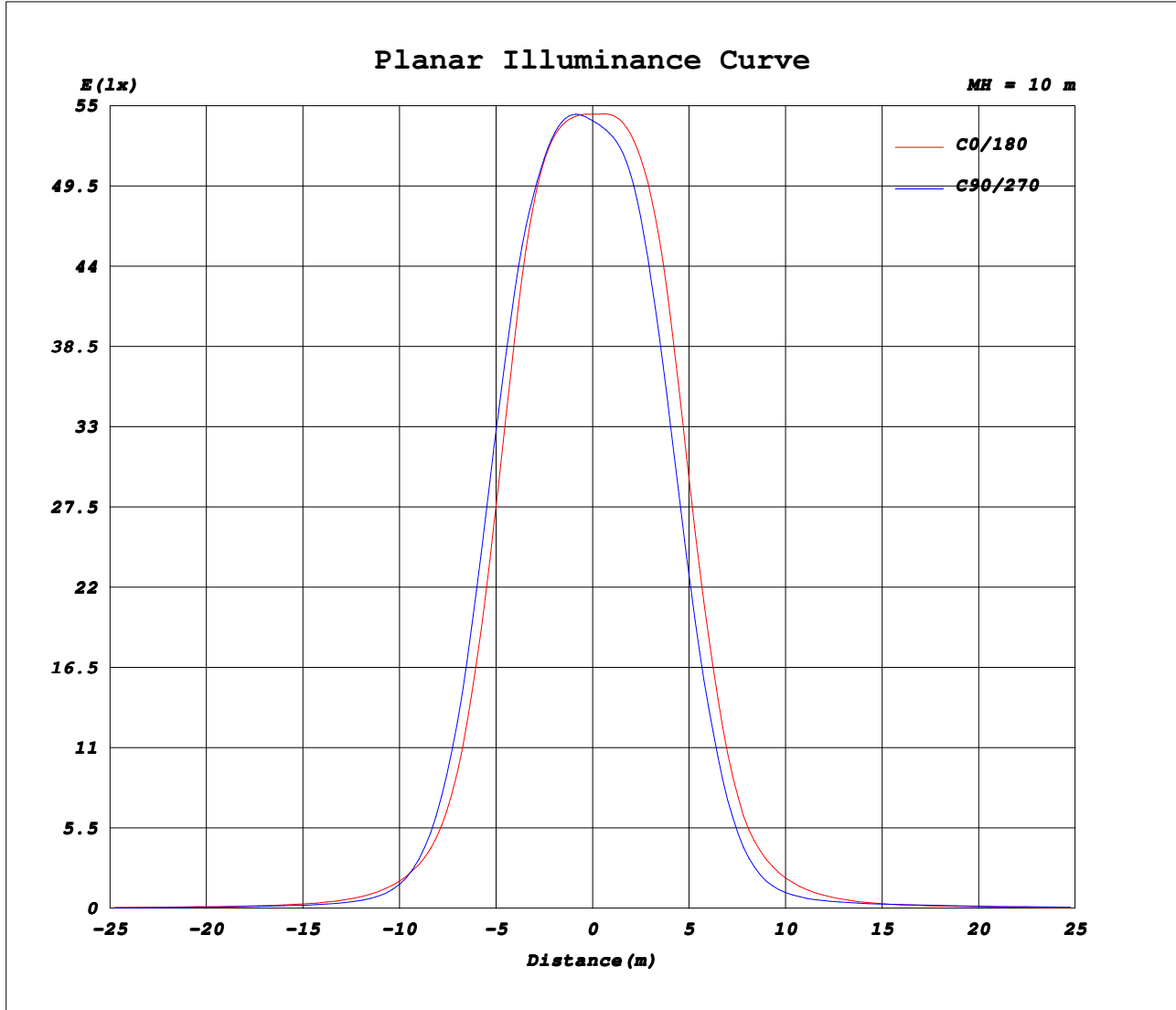
AvgL	cd/m2
L_0~180 (65) av	3289
L_0~180 (75) av	4515
L_0~180 (85) av	6898
L_90~270 (65) av	3307
L_90~270 (75) av	3619
L_90~270 (85) av	2730
L_45 (65) av	3389
L_45 (75) av	4114
L_45 (85) av	6363

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:20DEG
Operators:LITPA
Test Date:18 April 2019

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.400
Humidity:65.0%
Test Distance:5.680m [K=1.0000]
Remarks: TCE-45W-VS
OT-60

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 20DEG
Operators: LITPA
Test Date: 18 April 2019

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.400
Humidity: 65.0%
Test Distance: 5.680m [K=1.0000]
Remarks: TCE-45W-VS
OT-60

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:230.36V I:0.1992A P:44.166W PF:0.9627 Freq:50.01Hz Lamp Flux:6031.24x1 lm		
NAME: TCE	TYPE:LED	WEIGHT:3.2kg
SPEC.:45W	DIM.: 68mmX1430mmx78mm	SERIAL No.:
MFR.: LITPA AYDINLATMA	SUR.:	Shielding Angle:

Table--1

UNIT: cd

[illegible]

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 20DEG
Operators: LITPA
Test Date: 18 April 2019

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.400
Humidity:65.0%
Test Distance:5.680m [K=1.0000]
Remarks: TCE-45W-VS
OT-60

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:230.36V I:0.1992A P:44.166W PF:0.9627 Freq:50.01Hz Lamp Flux:6031.24x1 lm		
NAME: TCE	TYPE:LED	WEIGHT:3.2kg
SPEC.:45W	DIM.: 68mmX1430mmx78mm	SERIAL No.:
MFR.: LITPA AYDINLATMA	SUR.:	Shielding Angle:

Table--2

UNIT: cd

[illegible]

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 20DEG
Operators: LITPA
Test Date: 18 April 2019

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.400
Humidity:65.0%
Test Distance:5.680m [K=1.0000]
Remarks: TCE-45W-VS
OT-60