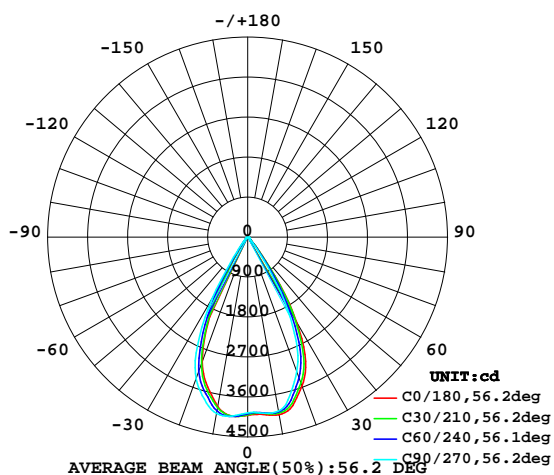


LUMINAIRE PHOTOMETRIC TEST REPORT

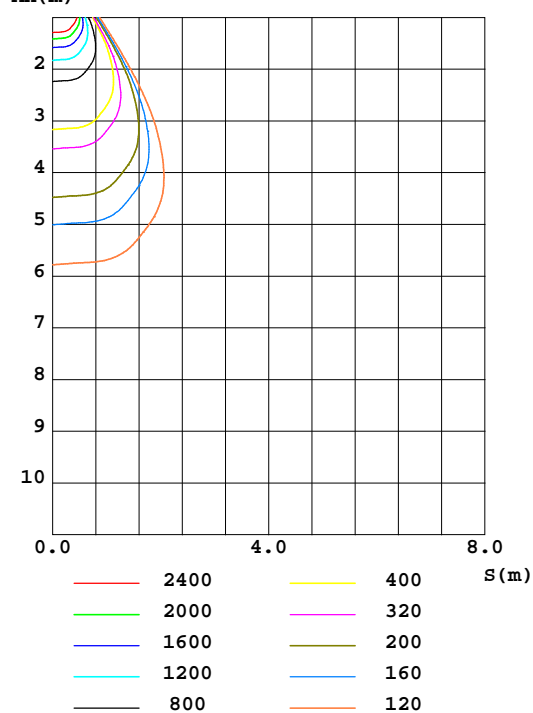
Test:U:230.7V I:0.1670A P:35.40W PF:0.9170 Lamp Flux:3202.38x1 lm		
NAME: TL17A-35W	TYPE:35W	WEIGHT:
DIM.:	SPEC.:2700K	SERIAL No.:1
MFR.:	SUR.:0.04	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 90.46 lm/W			
MODEL	TL17A-35W	I _{max} (cd)	4063	S/MH(C0/180)	0.90
NOMINAL POWER(W)	36	LOR(%)	100.0	S/MH(C90/270)	0.84
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	3202.4	η UP,DN(C0-180)	0.0,52.2
NOMINAL FLUX(lm)	3202.38	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,47.8
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	230.7	η down(%)	100.0	CIBSE SHR MAX	0.85

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2016-08-04

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.480m [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	4063	4011	3980	3952	3879	3938	4032	4042	0- 10	382.3	382.3	11.9,11.9
20	3571	3438	3231	3152	2992	3137	3398	3464	10- 20	1037	1419	44.3,44.3
30	2197	2009	1649	1433	999.2	1177	1614	1815	20- 30	1160	2579	80.5,80.5
40	346.5	309.8	211.5	176.3	137.4	148.5	194.4	235.8	30- 40	445.4	3024	94.4,94.4
50	72.05	69.03	60.30	54.20	54.68	56.93	65.56	70.58	40- 50	87.83	3112	97.2,97.2
60	33.17	31.97	28.55	26.66	28.21	29.48	32.97	35.11	50- 60	39.19	3151	98.4,98.4
70	20.81	20.07	18.46	17.56	16.32	17.01	18.61	19.62	60- 70	23.65	3175	99.1,99.1
80	14.24	13.83	12.96	12.43	10.38	10.61	11.34	11.88	70- 80	15.93	3191	99.6,99.6
90	10.23	10.12	9.788	9.570	8.441	8.516	8.703	8.784	80- 90	11.40	3202	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		

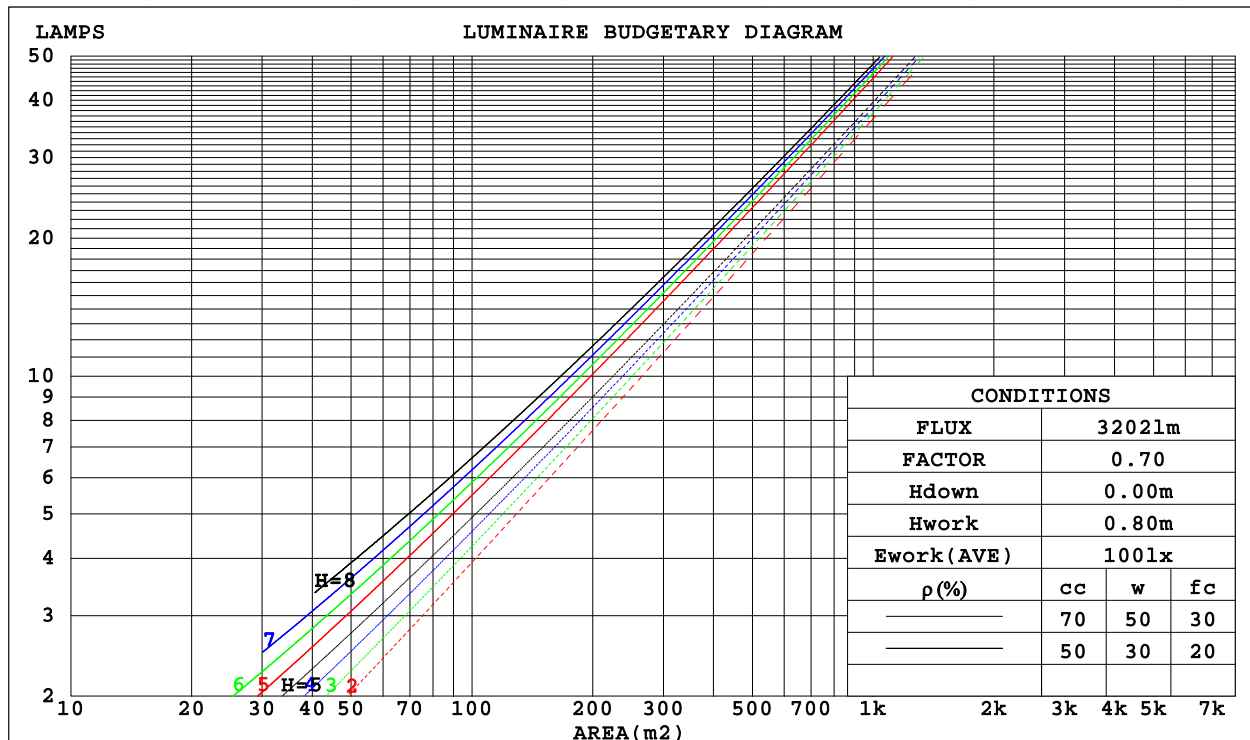
C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2016-08-04

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.480m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.7V I:0.1670A P:35.40W PF:0.9170 Lamp Flux:3202.38x1 lm		
NAME: TL17A-35W	TYPE:35W	WEIGHT:
DIM.:	SPEC.:2700K	SERIAL No.:1
MFR.:	SUR.:0.04	PROTECTION 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	1.02	1.02	1.02	1.00
1.0	1.11	1.08	1.06	1.09	1.06	1.04	1.05	1.03	1.01	1.01	.00	.98	.97	.96	.95	.94
2.0	1.03	.00	.96	1.02	.98	.95	.99	.96	.93	.96	.93	.91	.93	.91	.89	.88
3.0	.97	.92	.88	.96	.91	.88	.93	.89	.86	.91	.87	.85	.88	.86	.84	.82
4.0	.91	.86	.82	.90	.85	.81	.88	.84	.80	.86	.82	.79	.84	.81	.78	.77
5.0	.86	.80	.76	.85	.80	.76	.83	.79	.75	.81	.78	.74	.80	.77	.74	.72
6.0	.81	.75	.71	.80	.75	.71	.79	.74	.70	.77	.73	.70	.76	.72	.70	.68
7.0	.77	.71	.67	.76	.70	.67	.75	.70	.66	.73	.69	.66	.72	.69	.66	.64
8.0	.73	.67	.63	.72	.67	.63	.71	.66	.63	.70	.65	.62	.69	.65	.62	.61
9.0	.69	.63	.59	.68	.63	.59	.67	.63	.59	.67	.62	.59	.66	.62	.59	.57
10.0	.65	.60	.56	.65	.60	.56	.64	.59	.56	.63	.59	.56	.63	.59	.56	.54



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2016-08-04

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.480m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:230.7V I:0.1670A P:35.40W PF:0.9170 Lamp Flux:3202.38x1 lm		
NAME: TL17A-35W	TYPE:35W	WEIGHT:
DIM.:	SPEC.:2700K	SERIAL No.:1
MFR.:	SUR.:0.04	PROTECTION 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	.177	.100	.032	.170	.097	.031	.157	.090	.029	.146	.084	.027	.135	.078	.025	
2.0	.167	.091	.028	.161	.089	.027	.150	.084	.026	.141	.079	.025	.132	.074	.023	
3.0	.157	.084	.025	.153	.082	.025	.144	.078	.024	.135	.074	.023	.128	.071	.022	
4.0	.149	.077	.023	.145	.076	.022	.137	.073	.022	.130	.070	.021	.123	.067	.020	
5.0	.142	.072	.021	.138	.071	.021	.131	.068	.020	.125	.066	.020	.119	.064	.019	
6.0	.135	.068	.019	.132	.067	.019	.126	.064	.019	.120	.063	.018	.115	.061	.018	
7.0	.129	.064	.018	.126	.063	.018	.121	.061	.018	.116	.059	.017	.111	.058	.017	
8.0	.123	.060	.017	.121	.059	.017	.116	.058	.017	.112	.057	.016	.108	.055	.016	
9.0	.118	.057	.016	.116	.056	.016	.112	.055	.016	.108	.054	.015	.104	.053	.015	
10.0	.113	.054	.015	.111	.054	.015	.108	.053	.015	.104	.052	.015	.101	.051	.015	

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	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.171	.157	.145	.146	.135	.125	.100	.093	.086	.058	.054	.050	.018	.017	.016	
2.0	.156	.133	.113	.133	.114	.098	.091	.079	.068	.053	.046	.040	.017	.015	.013	
3.0	.143	.114	.090	.122	.098	.078	.084	.068	.055	.049	.040	.032	.016	.013	.011	
4.0	.132	.099	.073	.113	.085	.064	.078	.059	.045	.045	.035	.027	.015	.011	.009	
5.0	.123	.087	.060	.106	.075	.053	.073	.053	.037	.042	.031	.022	.014	.010	.007	
6.0	.116	.078	.050	.099	.067	.044	.069	.047	.031	.040	.028	.018	.013	.009	.006	
7.0	.109	.070	.043	.094	.061	.037	.065	.043	.026	.038	.025	.016	.012	.008	.005	
8.0	.103	.064	.037	.089	.055	.032	.061	.039	.023	.036	.023	.014	.012	.008	.004	
9.0	.098	.059	.032	.084	.051	.028	.059	.036	.020	.034	.021	.012	.011	.007	.004	
10.0	.093	.054	.028	.081	.047	.024	.056	.033	.017	.033	.020	.010	.011	.006	.003	

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2016-08-04

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.480m [K=1.0000]
Remarks:

Uncorrected UGR Table

Test:U:230.7V I:0.1670A P:35.40W PF:0.9170 Lamp Flux:3202.38x1 lm											
NAME: TL17A-35W					TYPE:35W			WEIGHT:			
DIM.:					SPEC.:2700K			SERIAL No.:1			
MFR.:					SUR.:0.04			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	2H	23.0	23.9	23.3	24.1	24.3	21.1	22.0	21.3	22.2	22.3
	3H	23.0	23.8	23.2	24.0	24.2	21.1	21.9	21.3	22.1	22.3
	4H	23.0	23.8	23.2	24.0	24.2	21.1	21.9	21.4	22.1	22.3
	6H	23.0	23.7	23.3	24.0	24.2	21.2	21.9	21.5	22.2	22.4
	8H	23.0	23.7	23.3	24.0	24.3	21.3	22.0	21.6	22.2	22.5
	12H	23.1	23.8	23.4	24.0	24.3	21.4	22.1	21.7	22.3	22.6
4H	2H	22.8	23.6	23.1	23.8	24.1	20.9	21.7	21.2	21.9	22.2
	3H	22.8	23.5	23.1	23.8	24.0	21.0	21.7	21.3	21.9	22.2
	4H	22.8	23.5	23.2	23.8	24.1	21.1	21.7	21.4	22.0	22.3
	6H	22.9	23.5	23.3	23.8	24.2	21.3	21.8	21.6	22.1	22.5
	8H	23.0	23.5	23.4	23.9	24.3	21.4	21.9	21.8	22.3	22.6
	12H	23.2	23.6	23.6	24.0	24.4	21.6	22.1	22.0	22.5	22.8
8H	4H	22.8	23.3	23.2	23.6	24.0	21.1	21.6	21.5	21.9	22.3
	6H	23.0	23.4	23.4	23.8	24.2	21.4	21.8	21.8	22.2	22.6
	8H	23.1	23.5	23.6	23.9	24.4	21.6	22.0	22.1	22.4	22.8
	12H	23.4	23.7	23.8	24.1	24.6	22.0	22.3	22.4	22.7	23.2
12H	4H	22.7	23.2	23.2	23.6	24.0	21.0	21.5	21.5	21.9	22.3
	6H	23.0	23.3	23.4	23.7	24.2	21.4	21.8	21.8	22.2	22.6
	8H	23.2	23.5	23.6	23.9	24.4	21.7	22.0	22.2	22.5	22.9
Variations with the observer position at spacings:											
S = 1.0H	+ 2.9 / - 2.8					+ 1.7 / - 1.8					
1.5H	+ 5.1 / - 2.5					+ 3.3 / - 1.6					
2.0H	+ 1.7 / - 0.6					+ 1.1 / - 0.5					

CIE Pub.117 Corrected 3202 lm Total Lamp Luminous Flux.(8log(F/F0) = 4.0)

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2016-08-04

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.480m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:230.7V I:0.1670A P:35.40W PF:0.9170 Lamp Flux:3202.38x1 lm		
NAME: TL17A-35W	TYPE:35W	WEIGHT:
DIM.:	SPEC.:2700K	SERIAL No.:1
MFR.:	SUR.:0.04	PROTECTION ANGLE:

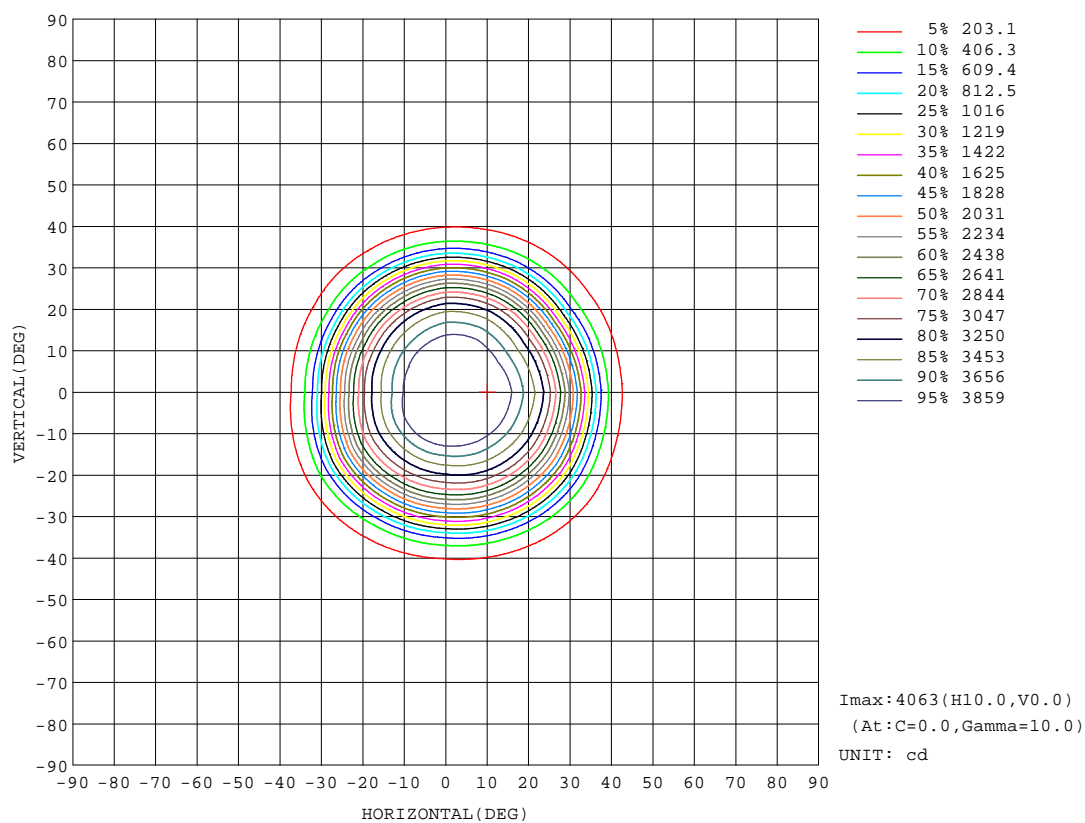
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	88	82	78	88	82	78	87	81	78	75
0.80	95	90	86	95	89	86	94	89	85	82
1.00	100	94	91	99	94	90	97	93	90	86
1.25	103	98	95	102	98	95	100	97	94	90
1.50	106	101	98	105	101	98	103	99	96	92
2.00	109	104	101	107	103	101	104	101	99	94
2.50	110	106	103	109	105	103	106	103	101	95
3.00	112	108	106	110	107	105	107	104	102	96
4.00	114	111	109	112	109	107	108	106	105	98
5.00	115	113	111	113	111	109	109	108	106	99
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:2016-08-04

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.480m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:230.7V I:0.1670A P:35.40W PF:0.9170 Lamp Flux:3202.38x1 lm		
NAME: TL17A-35W	TYPE:35W	WEIGHT:
DIM.:	SPEC.:2700K	SERIAL No.:1
MFR.:	SUR.:0.04	PROTECTION ANGLE:

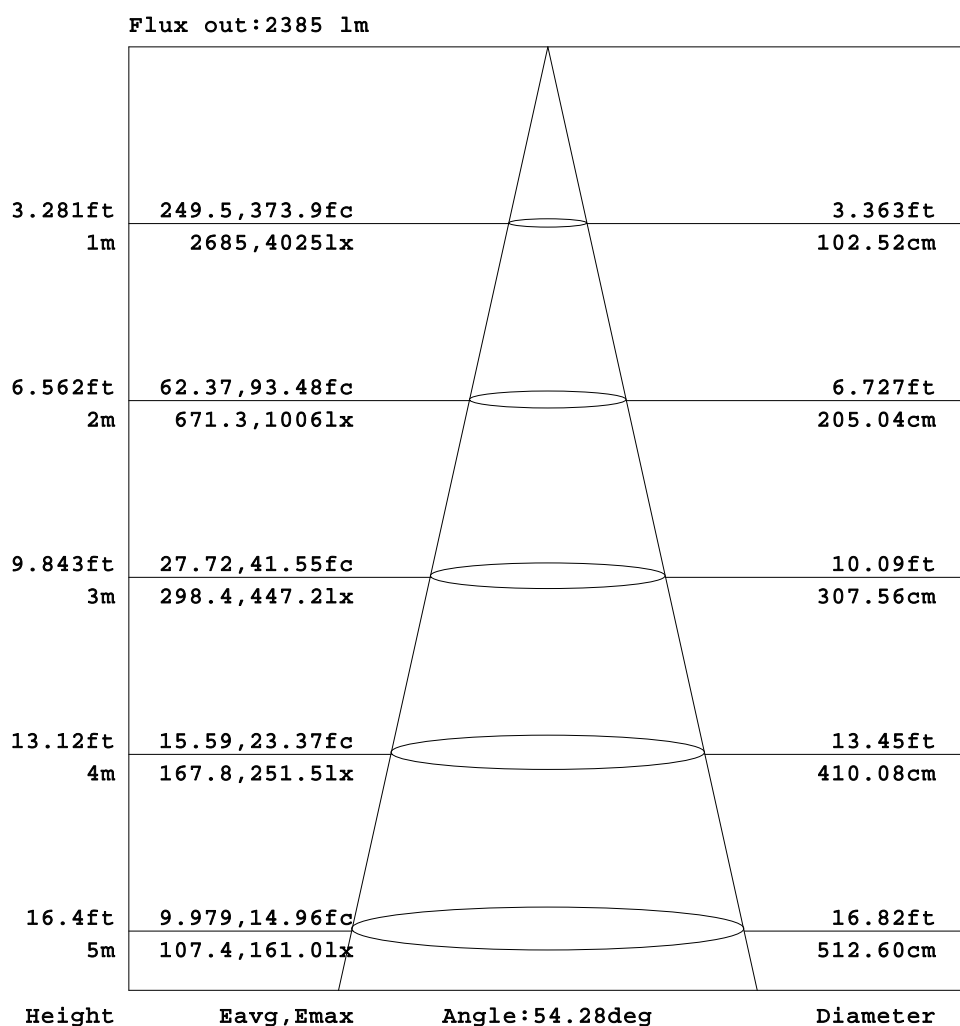


C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2016-08-04

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.480m [K=1.0000]
Remarks:

AAI Figure

Test:U:230.7V I:0.1670A P:35.40W PF:0.9170 Lamp Flux:3202.38x1 lm		
NAME: TL17A-35W	TYPE:35W	WEIGHT:
DIM.:	SPEC.:2700K	SERIAL No.:1
MFR.:	SUR.:0.04	PROTECTION ANGLE:



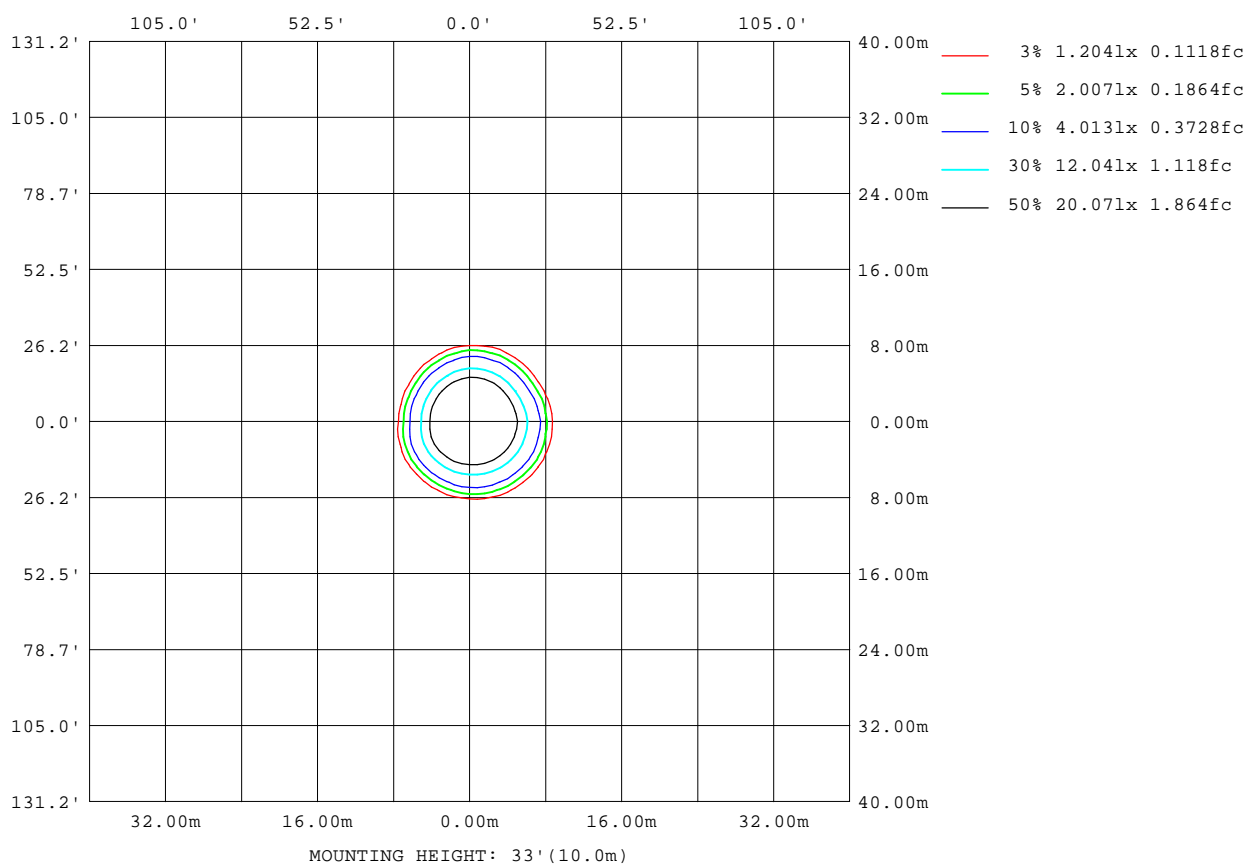
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2016-08-04

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity: 65.0%
Test Distance: 9.480m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

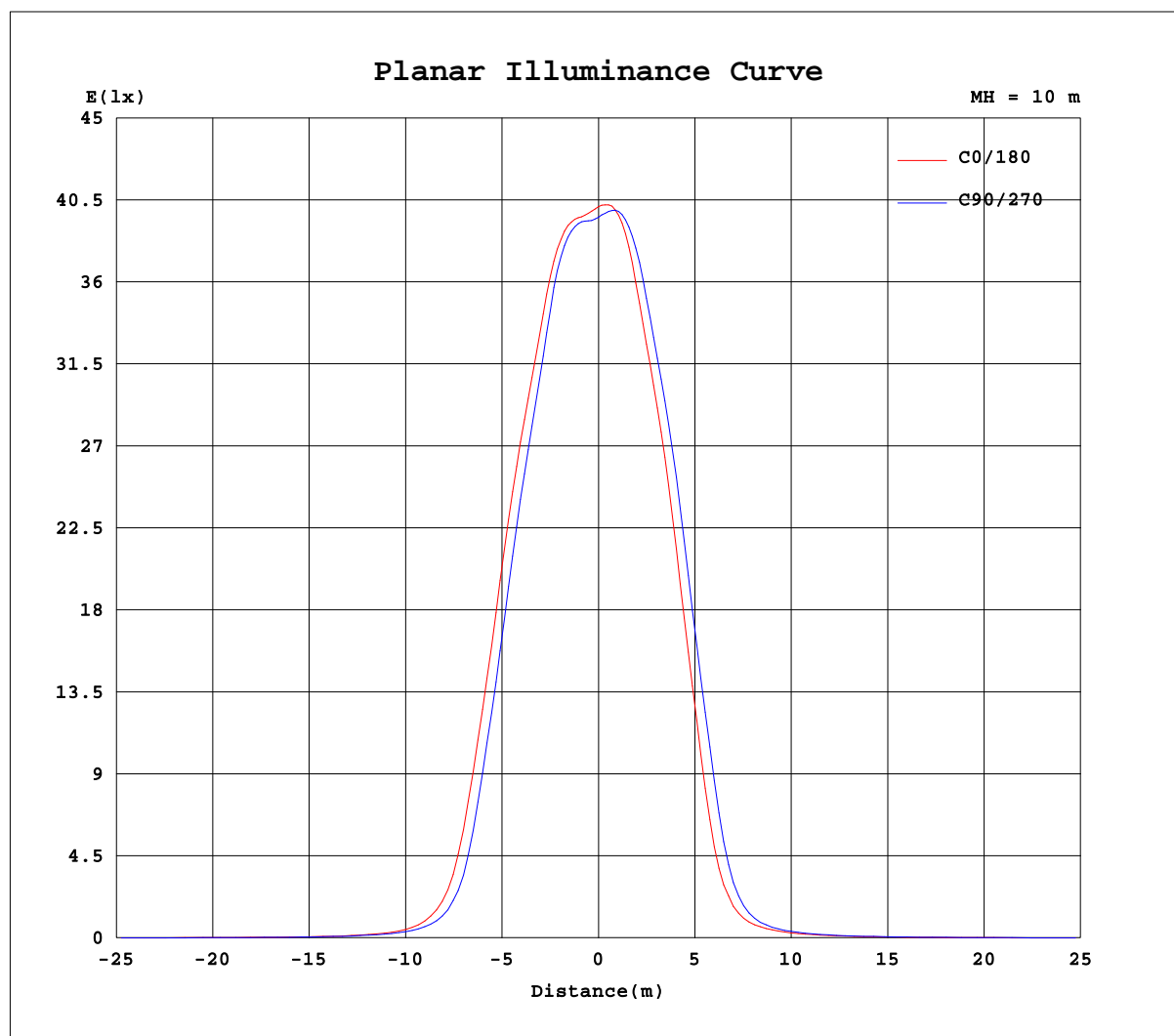
Test:U:230.7V I:0.1670A P:35.40W PF:0.9170 Lamp Flux:3202.38x1 lm		
NAME: TL17A-35W	TYPE:35W	WEIGHT:
DIM.:	SPEC.:2700K	SERIAL No.:1
MFR.:	SUR.:0.04	PROTECTION ANGLE:



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2016-08-04

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.480m [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: 2016-08-04

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity: 65.0%
Test Distance: 9.480m [K=1.0000]
Remarks:

Test:U:230.7V I:0.1670A P:35.40W PF:0.9170 Lamp Flux:3202.38x1 1m		
NAME: TL17A-35W	TYPE:35W	WEIGHT:
DIM.:	SPEC.:2700K	SERIAL No.:1
MFR.:	SUR.:0.04	PROTECTION ANGLE:

UNIT: cd

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2016-08-04

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity: 65.0%
Test Distance: 9.480m [K=1.0000]
Remarks:

```