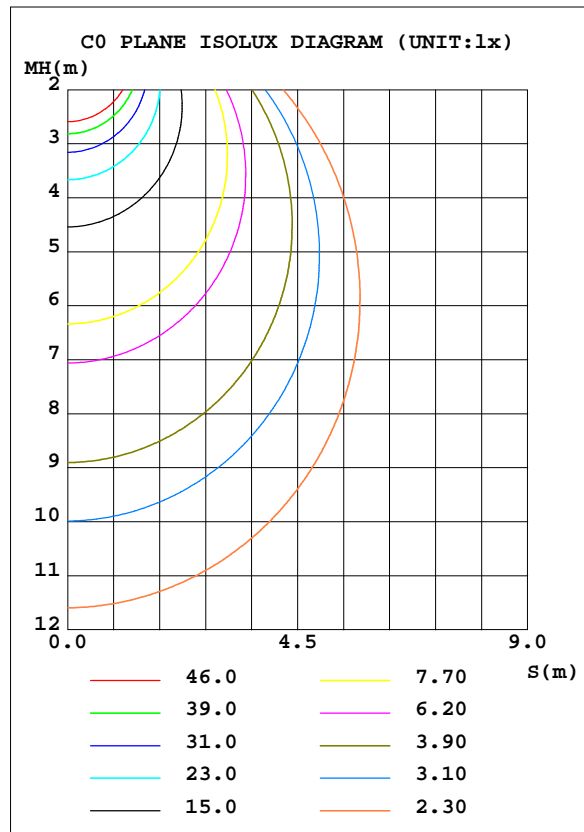
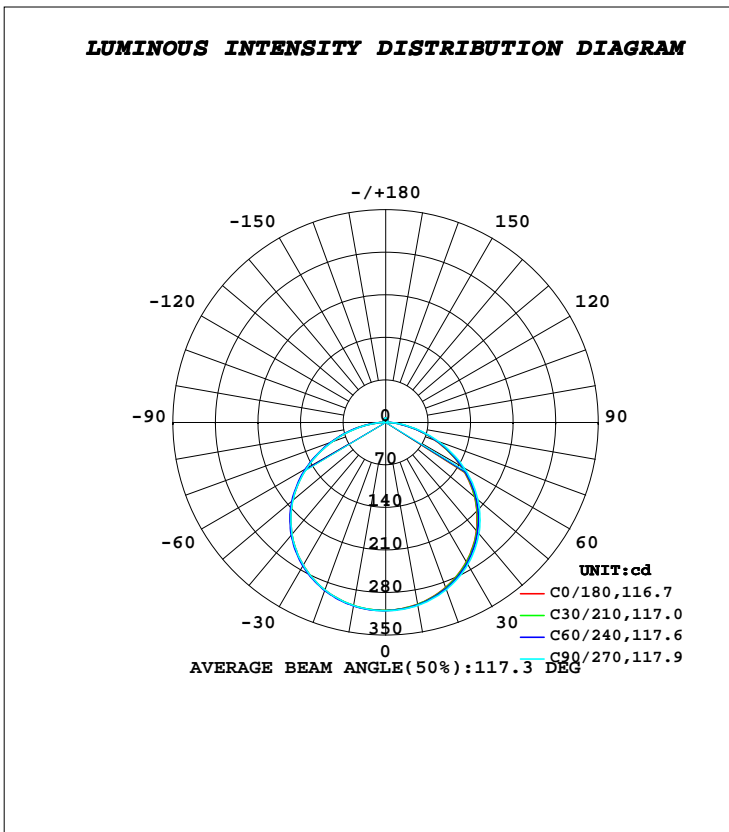


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:24.000V I:0.3680A P:8.8000W PF:1.0000 Freq:0Hz Lamp Flux:964.557x1 lm		
NAME: 127-066	TYPE:LED	
MFR.: Tronix Lighting		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 109.61 lm/W			
MODEL		I _{max} (cd)	310.7	S/MH(C0/180)	1.28
NOMINAL POWER(W)	8.8	LOR(%)	100.0	S/MH(C90/270)	1.30
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	964.56	η UP, DN(C0-180)	1.4, 48.3
NOMINAL FLUX(lm)	964.557	CIE CLASS	DIRECT	η UP, DN(C180-360)	1.5, 48.9
LAMPS INSIDE	1	η up(%)	2.8	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)	24	η down(%)	97.2	CIBSE SHR MAX	1.50



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2019-03-31

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.406.11
Humidity: 65.0%
Test Distance: 8.000m [K=0.7063]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

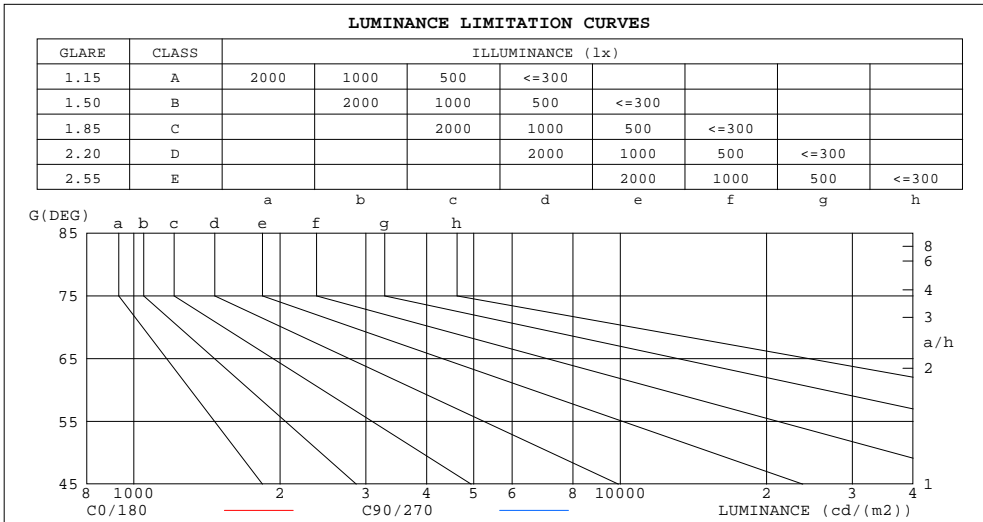
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	303.6	304.3	305.6	306.9	305.9	306.1	305.9	305.5	0- 10	29.37	29.37	3.04,3.04
20	288.9	290.1	292.4	294.3	293.3	293.7	293.2	291.5	10- 20	84.74	114.1	11.8,11.8
30	265.1	266.8	270.2	272.6	271.4	272.2	271.4	268.4	20- 30	130.1	244.2	25.3,25.3
40	232.4	234.5	238.7	241.3	240.1	241.2	240.1	236.2	30- 40	159.6	403.9	41.9,41.9
50	191.1	193.2	198.0	200.7	200.1	201.0	199.5	195.3	40- 50	168.7	572.6	59.4,59.4
60	141.9	143.8	148.6	151.4	150.3	151.3	150.0	145.4	50- 60	155.0	727.6	75.4,75.4
70	87.81	89.23	93.23	95.93	95.21	96.08	94.74	90.56	60- 70	119.3	847.0	87.8,87.8
80	36.06	36.86	39.89	41.76	41.79	42.23	40.75	38.11	70- 80	69.35	916.3	95,95
90	3.614	3.749	3.009	4.607	4.602	4.912	2.564	4.454	80- 90	20.99	937.3	97.2,97.2
100	2.616	2.636	2.622	2.624	2.949	3.035	3.032	3.057	90-100	3.053	940.3	97.5,97.5
110	3.302	3.282	3.309	3.285	3.542	3.593	3.609	3.615	100-110	3.306	943.7	97.8,97.8
120	4.025	3.965	4.002	4.014	4.189	4.249	4.224	4.238	110-120	3.743	947.4	98.2,98.2
130	4.776	4.672	4.704	4.755	4.845	4.907	4.855	4.870	120-130	3.994	951.4	98.6,98.6
140	5.452	5.346	5.399	5.446	5.455	5.531	5.495	5.482	130-140	3.964	955.4	99,99
150	6.078	5.982	6.073	6.100	6.054	6.138	6.138	6.092	140-150	3.613	959.0	99.4,99.4
160	6.685	6.600	6.704	6.702	6.638	6.683	6.728	6.665	150-160	2.945	961.9	99.7,99.7
170	7.145	7.101	7.212	7.186	7.082	7.116	7.192	7.127	160-170	1.955	963.9	99.9,99.9
180	7.249	7.282	7.381	7.338	7.249	7.272	7.399	7.346	170-180	0.6895	964.6	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2019-03-31

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.406.11
Humidity:65.0%
Test Distance:8.000m [K=0.7063]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:24.000V I:0.3680A P:8.8000W PF:1.0000 Freq:0Hz Lamp Flux:964.557x1 lm		
NAME: 127-057_066	TYPE:LED	
MFR.: Tronix Lighting		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	61773	67540
80	69219	76579
75	78779	84653
70	85577	90862
65	90819	95580
60	94604	99057
55	97313	101308
50	99085	102698
45	100303	103505

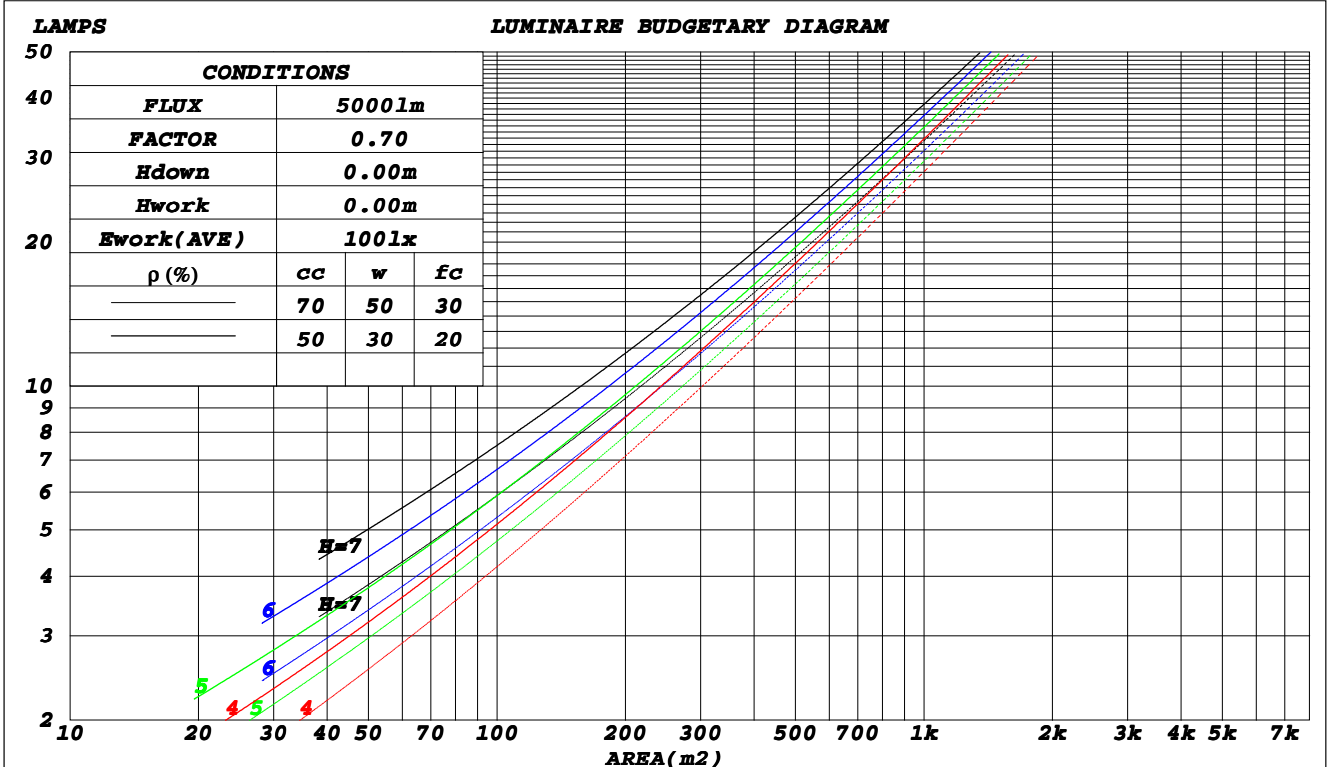
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2019-03-31

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.406.11
Humidity: 65.0%
Test Distance: 8.000m [K=0.7063]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:24.000V I:0.3680A P:8.8000W PF:1.0000 Freq:0Hz Lamp Flux:964.557x1 lm		
NAME: 127-057_066	TYPE:LED	
MFR.: Tronix Lighting		

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	1.18	1.18	1.18	1.15	1.15	1.15	1.10	1.10	1.10	1.04	1.04	1.04	.99	.99	.99	.97
1.0	1.03	.98	.95	1.00	.96	.93	.96	.92	.89	.91	.88	.86	.87	.85	.83	.81
2.0	.89	.82	.77	.87	.81	.75	.83	.78	.73	.79	.75	.71	.76	.72	.69	.67
3.0	.78	.70	.63	.76	.69	.63	.73	.66	.61	.70	.64	.60	.67	.62	.58	.56
4.0	.69	.60	.53	.68	.59	.53	.65	.57	.52	.62	.56	.51	.60	.54	.50	.47
5.0	.62	.52	.46	.60	.52	.45	.58	.50	.45	.56	.49	.44	.53	.48	.43	.41
6.0	.55	.46	.40	.54	.46	.39	.52	.45	.39	.50	.43	.38	.48	.42	.38	.36
7.0	.50	.41	.35	.49	.41	.35	.47	.40	.34	.46	.39	.34	.44	.38	.33	.31
8.0	.46	.37	.31	.45	.37	.31	.43	.36	.31	.42	.35	.30	.40	.34	.30	.28
9.0	.42	.34	.28	.41	.33	.28	.40	.33	.27	.38	.32	.27	.37	.31	.27	.25
10.0	.39	.31	.25	.38	.30	.25	.37	.30	.25	.36	.29	.25	.35	.29	.24	.23



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2019-03-31

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.406.11
 Humidity: 65.0%
 Test Distance: 8.000m [K=0.7063]
 Remarks:

WEC AND CCEC

Test:U:24.000V I:0.3680A P:8.8000W PF:1.0000 Freq:0Hz Lamp Flux:964.557x1 lm		
NAME: 127-057_066	TYPE:LED	
MFR.: Tronix Lighting		

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	.316	.180	.057	.308	.176	.056	.293	.168	.054	.279	.161	.052	.267	.155	.050	
2.0	.296	.162	.050	.289	.159	.049	.275	.153	.048	.263	.148	.046	.252	.143	.045	
3.0	.273	.145	.044	.267	.143	.043	.255	.138	.042	.244	.134	.041	.234	.130	.040	
4.0	.251	.131	.038	.246	.129	.038	.235	.125	.037	.226	.121	.037	.217	.118	.036	
5.0	.232	.118	.034	.227	.117	.034	.218	.113	.033	.209	.110	.033	.201	.107	.032	
6.0	.215	.108	.031	.211	.106	.031	.202	.104	.030	.194	.101	.030	.187	.098	.029	
7.0	.200	.099	.028	.196	.098	.028	.188	.095	.027	.181	.093	.027	.175	.091	.027	
8.0	.187	.091	.026	.183	.090	.025	.176	.088	.025	.170	.086	.025	.164	.084	.024	
9.0	.175	.085	.024	.172	.084	.023	.165	.082	.023	.160	.080	.023	.154	.078	.023	
10.0	.164	.079	.022	.161	.078	.022	.156	.076	.021	.150	.075	.021	.145	.073	.021	

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																
1.0	.212	.212	.212	.181	.181	.181	.124	.124	.124	.071	.071	.071	.023	.023	.023	
2.0	.195	.154	.119	.167	.132	.103	.114	.092	.072	.066	.053	.042	.021	.017	.014	
3.0	.187	.136	.096	.160	.118	.083	.110	.082	.058	.064	.048	.034	.020	.015	.011	
4.0	.179	.123	.080	.154	.106	.070	.106	.074	.049	.061	.043	.029	.020	.014	.010	
5.0	.172	.113	.069	.148	.098	.060	.102	.068	.042	.059	.040	.025	.019	.013	.008	
6.0	.165	.105	.061	.142	.091	.053	.098	.063	.038	.057	.037	.022	.018	.012	.007	
7.0	.158	.098	.055	.136	.085	.048	.094	.059	.034	.055	.035	.020	.018	.011	.007	
8.0	.152	.092	.051	.131	.080	.044	.090	.056	.031	.053	.033	.019	.017	.011	.006	
9.0	.146	.087	.047	.125	.076	.041	.087	.053	.029	.051	.031	.018	.016	.010	.006	
10.0	.140	.083	.045	.121	.072	.039	.084	.051	.028	.049	.030	.017	.016	.010	.005	

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-03-31

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.406.11
 Humidity:65.0%
 Test Distance:8.000m [K=0.7063]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:24.000V I:0.3680A P:8.8000W PF:1.0000 Freq:0Hz Lamp Flux:964.557x1 lm		
NAME: 127-057_066	TYPE:LED	
MFR.: Tronix Lighting		

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	28.6	30.1	28.9	30.3	30.6	28.7	30.2	29.1	30.5	30.8
3H	30.1	31.5	30.4	31.8	32.1	30.3	31.7	30.6	32.0	32.3
4H	30.7	32.0	31.0	32.3	32.6	30.9	32.2	31.3	32.5	32.8
6H	31.1	32.3	31.5	32.6	33.0	31.4	32.6	31.7	32.9	33.3
8H	31.2	32.4	31.6	32.7	33.1	31.5	32.7	31.9	33.0	33.4
12H	31.3	32.4	31.7	32.8	33.1	31.6	32.7	32.0	33.1	33.4
4H 2H	29.2	30.5	29.6	30.8	31.1	29.3	30.6	29.7	30.9	31.3
3H	30.9	32.0	31.3	32.4	32.7	31.0	32.2	31.4	32.5	32.9
4H	31.6	32.6	32.0	33.0	33.4	31.8	32.8	32.2	33.2	33.6
6H	32.1	33.0	32.6	33.4	33.9	32.3	33.3	32.8	33.7	34.1
8H	32.3	33.2	32.7	33.6	34.0	32.5	33.4	33.0	33.8	34.3
12H	32.4	33.2	32.9	33.6	34.1	32.7	33.5	33.1	33.9	34.4
8H 4H	31.8	32.7	32.3	33.1	33.6	32.0	32.9	32.5	33.3	33.7
6H	32.5	33.2	33.0	33.7	34.2	32.7	33.4	33.2	33.9	34.4
8H	32.8	33.4	33.3	33.9	34.4	33.0	33.6	33.5	34.1	34.6
12H	33.0	33.5	33.5	34.0	34.6	33.2	33.7	33.7	34.2	34.8
12H 4H	31.8	32.6	32.3	33.1	33.5	32.0	32.8	32.5	33.3	33.7
6H	32.6	33.2	33.1	33.7	34.2	32.8	33.4	33.3	33.9	34.4
8H	32.9	33.4	33.4	33.9	34.4	33.1	33.6	33.6	34.1	34.6
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.2					+ 0.1 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				

CIE Pub.117, 964.6 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -0.1)

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2019-03-31

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.406.11
Humidity:65.0%
Test Distance:8.000m [K=0.7063]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:24.000V I:0.3680A P:8.8000W PF:1.0000 Freq:0Hz Lamp Flux:964.557x1 lm		
NAME: 127-057_066	TYPE:LED	
MFR.: Tronix Lighting		

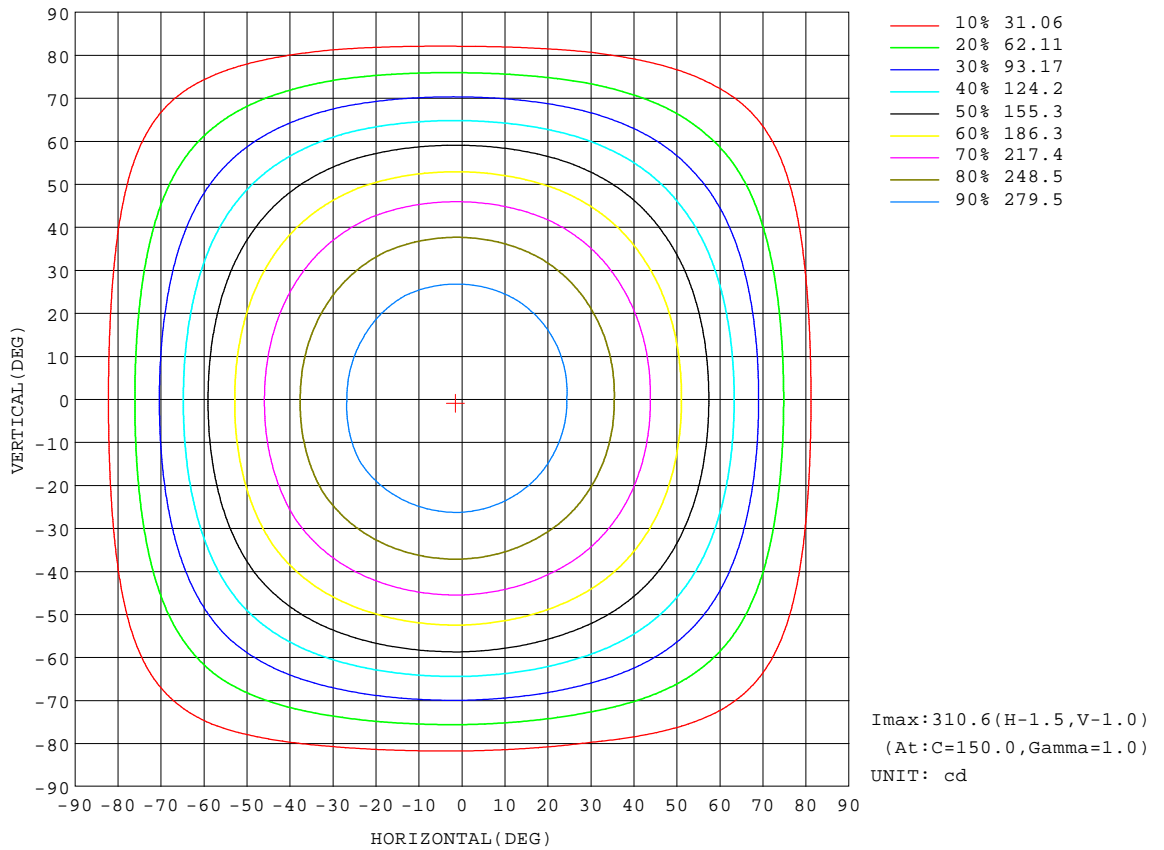
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	56	44	37	55	44	37	54	43	37	30
0.80	66	54	47	65	54	46	63	53	46	39
1.00	74	63	55	73	62	55	70	63	54	47
1.25	81	71	63	80	70	63	77	68	62	54
1.50	87	76	69	85	75	69	81	73	67	59
2.00	94	85	78	91	83	77	88	81	75	67
2.50	98	89	83	95	88	82	91	85	80	71
3.00	101	94	88	99	92	87	94	89	84	75
4.00	105	99	94	102	97	93	98	93	90	80
5.00	108	103	98	105	100	97	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: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2019-03-31

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.406.11
Humidity:65.0%
Test Distance:8.000m [K=0.7063]
Remarks:

ISOCANDELA DIAGRAM

Test:U:24.000V I:0.3680A P:8.8000W PF:1.0000 Freq:0Hz Lamp Flux:964.557x1 lm		
NAME: 127-057_066	TYPE:LED	
MFR.: Tronix Lighting		



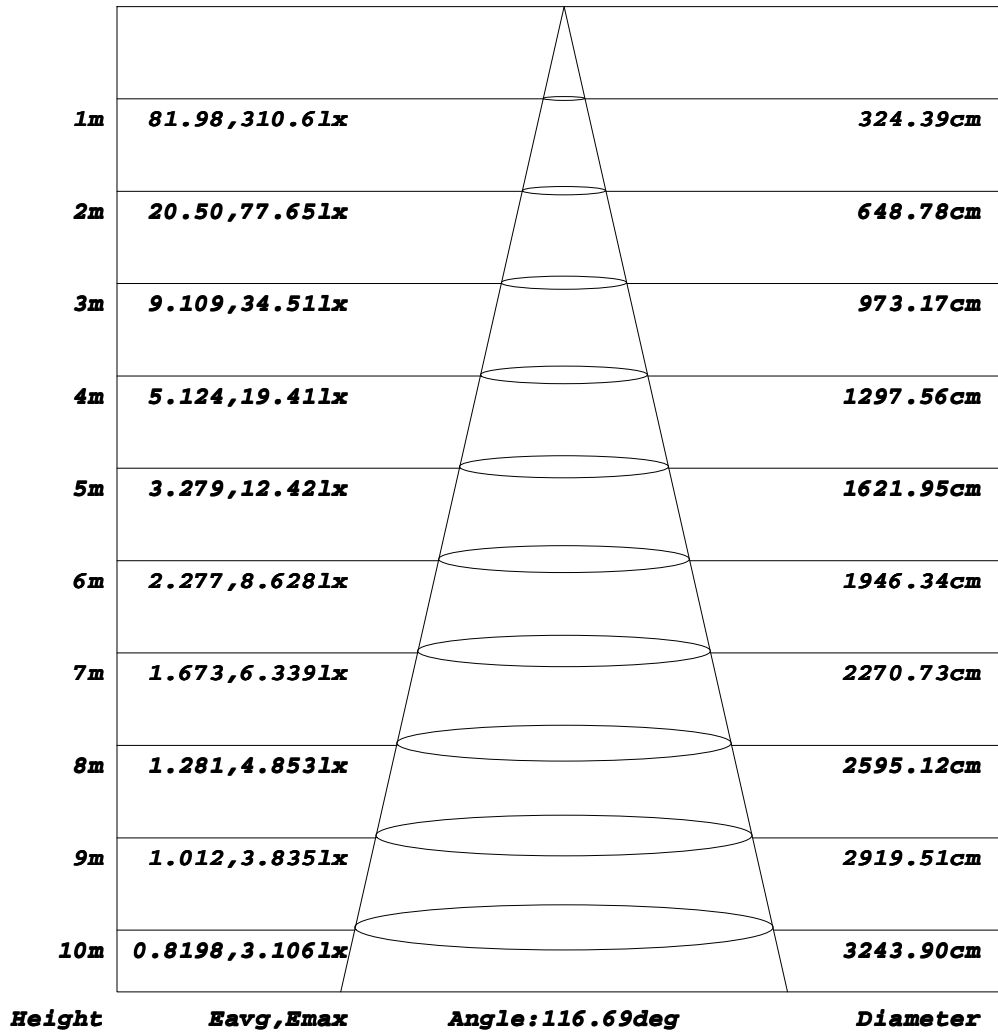
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2019-03-31

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.406.11
Humidity: 65.0%
Test Distance: 8.000m [K=0.7063]
Remarks:

AAI Figure

Test:U:24.000V I:0.3680A P:8.8000W PF:1.0000 Freq:0Hz Lamp Flux:964.557x1 lm		
NAME: 127-057_066	TYPE:LED	
MFR.: Tronix Lighting		

Flux out:713.4 lm



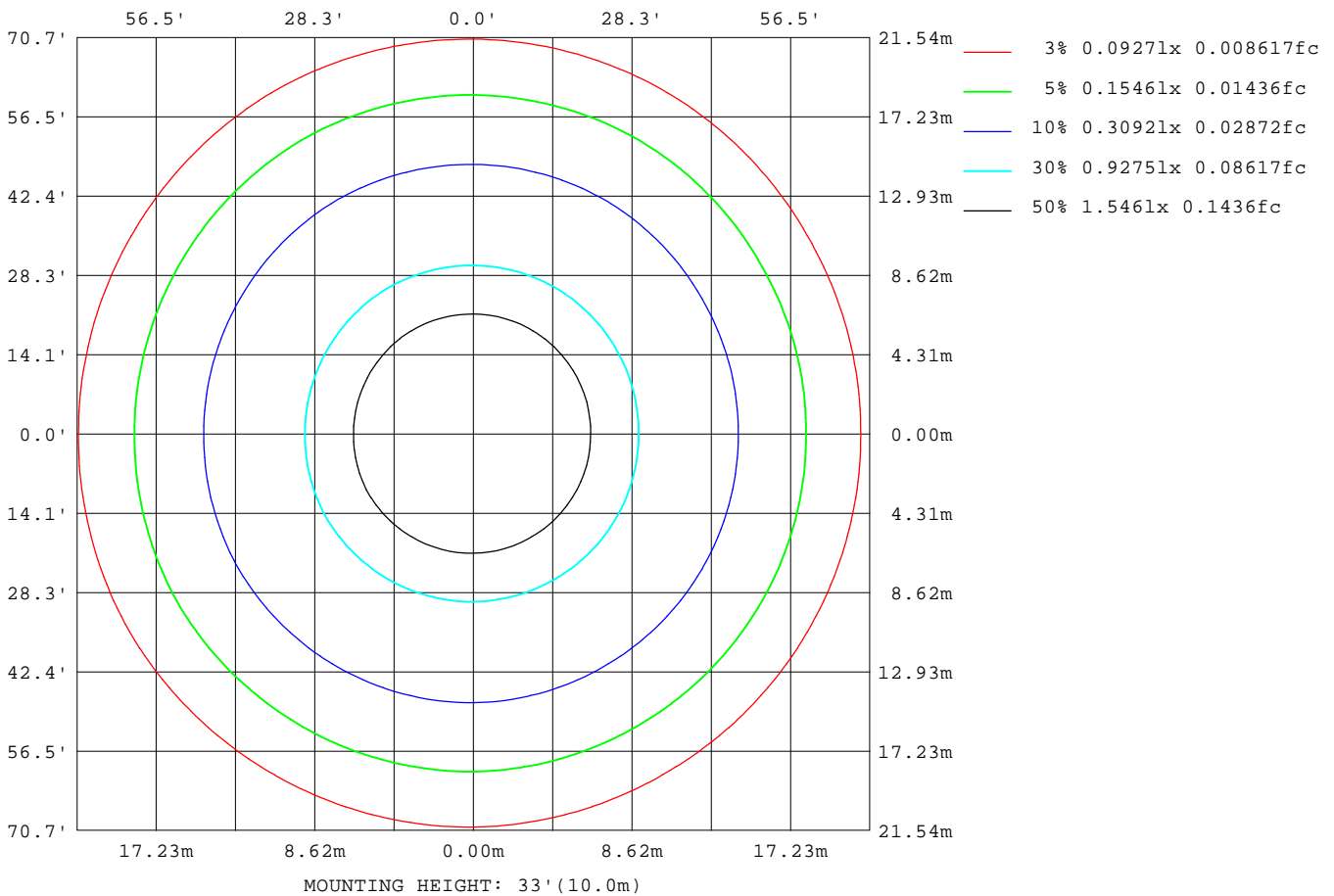
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2019-03-31

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.406.11
Humidity: 65.0%
Test Distance: 8.000m [K=0.7063]
Remarks:

ISOLUX DIAGRAM

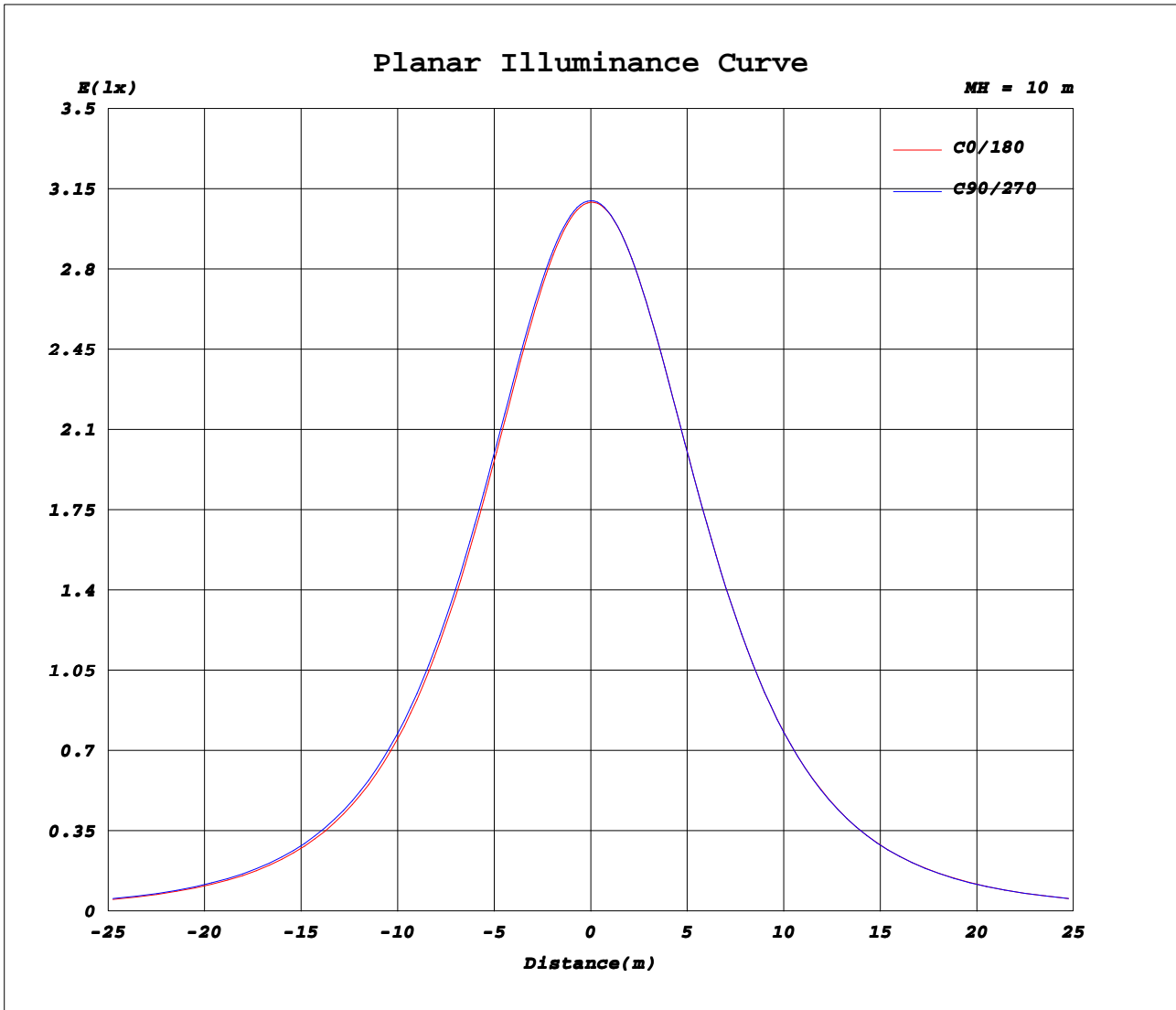
Test:U:24.000V I:0.3680A P:8.8000W PF:1.0000 Freq:0Hz Lamp Flux:964.557x1 lm		
NAME: 127-057_066	TYPE:LED	
MFR.: Tronix Lighting		



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2019-03-31

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.406.11
Humidity: 65.0%
Test Distance: 8.000m [K=0.7063]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2019-03-31

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.406.11
Humidity: 65.0%
Test Distance: 8.000m [K=0.7063]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:24.000V I:0.3680A P:8.8000W PF:1.0000 Freq:0Hz Lamp Flux:964.557x1 lm		
NAME: 127-057_066	TYPE:LED	
MFR.: Tronix Lighting		

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330							
0	309	309	310	310	310	311	309	309	310	310	310	311							
5	308	308	308	309	309	310	309	308	309	309	309	309							
10	304	304	305	306	306	307	306	306	306	306	306	305							
15	297	298	299	300	301	302	301	301	301	301	301	299							
20	289	289	291	292	294	295	293	293	294	293	292	291							
25	278	279	280	282	284	285	283	284	285	284	282	280							
30	265	266	268	270	272	273	271	272	273	271	270	267							
35	250	251	253	256	257	259	257	257	258	257	255	252							
40	232	233	235	239	240	242	240	240	242	240	238	234							
45	213	214	216	220	221	223	221	221	223	221	219	215							
50	191	192	194	198	200	202	200	200	202	200	198	193							
55	167	169	171	174	176	178	176	176	178	176	174	169							
60	142	143	145	149	150	153	150	151	152	150	148	143							
65	115	116	118	121	123	125	123	124	125	123	121	116							
70	87.8	88.6	89.8	93.2	94.7	97.1	95.2	95.6	96.6	94.7	92.6	88.5							
75	61.2	61.8	62.5	65.7	66.9	69.5	67.8	67.8	69.0	66.9	65.4	61.5							
80	36.1	37.0	36.7	39.9	40.3	43.2	41.8	41.6	42.8	40.7	39.8	36.5							
85	16.2	16.3	16.2	17.7	18.4	20.0	19.2	19.1	20.1	18.1	18.5	16.2							
90	3.61	3.73	3.77	3.01	4.40	4.81	4.60	4.63	5.20	2.56	4.87	4.04							
95	2.29	2.38	2.43	2.30	2.44	2.43	2.80	2.81	2.84	2.76	2.86	2.81							
100	2.62	2.64	2.63	2.62	2.64	2.61	2.95	3.05	3.02	3.03	3.04	3.07							
105	2.96	2.95	2.95	2.97	2.96	2.92	3.24	3.31	3.29	3.31	3.31	3.33							
110	3.30	3.28	3.28	3.31	3.31	3.26	3.54	3.60	3.58	3.61	3.61	3.62							
115	3.66	3.62	3.62	3.66	3.68	3.62	3.86	3.92	3.90	3.91	3.91	3.94							
120	4.02	3.97	3.96	4.00	4.04	3.99	4.19	4.27	4.23	4.22	4.21	4.27							
125	4.40	4.33	4.30	4.35	4.40	4.37	4.52	4.60	4.56	4.54	4.52	4.59							
130	4.78	4.69	4.66	4.70	4.77	4.74	4.84	4.93	4.88	4.85	4.83	4.91							
135	5.11	5.04	4.99	5.05	5.12	5.09	5.15	5.25	5.20	5.17	5.13	5.22							
140	5.45	5.37	5.32	5.40	5.46	5.43	5.45	5.55	5.52	5.50	5.44	5.52							
145	5.76	5.68	5.65	5.73	5.79	5.76	5.74	5.84	5.83	5.82	5.76	5.81							
150	6.08	5.99	5.98	6.07	6.12	6.08	6.05	6.14	6.14	6.14	6.08	6.10							
155	6.39	6.29	6.30	6.39	6.43	6.39	6.36	6.42	6.43	6.44	6.38	6.38							
160	6.68	6.59	6.61	6.70	6.72	6.68	6.64	6.67	6.70	6.73	6.68	6.66							
165	6.95	6.85	6.90	6.99	7.00	6.94	6.88	6.90	6.94	6.98	6.94	6.90							
170	7.14	7.07	7.14	7.21	7.22	7.16	7.08	7.09	7.14	7.19	7.15	7.10							
175	7.25	7.21	7.30	7.37	7.37	7.30	7.15	7.18	7.24	7.31	7.28	7.20							
180	7.25	7.23	7.34	7.38	7.38	7.30	7.25	7.24	7.31	7.40	7.38	7.31							

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2019-03-31

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.406.11
Humidity:65.0%
Test Distance:8.000m [K=0.7063]
Remarks: