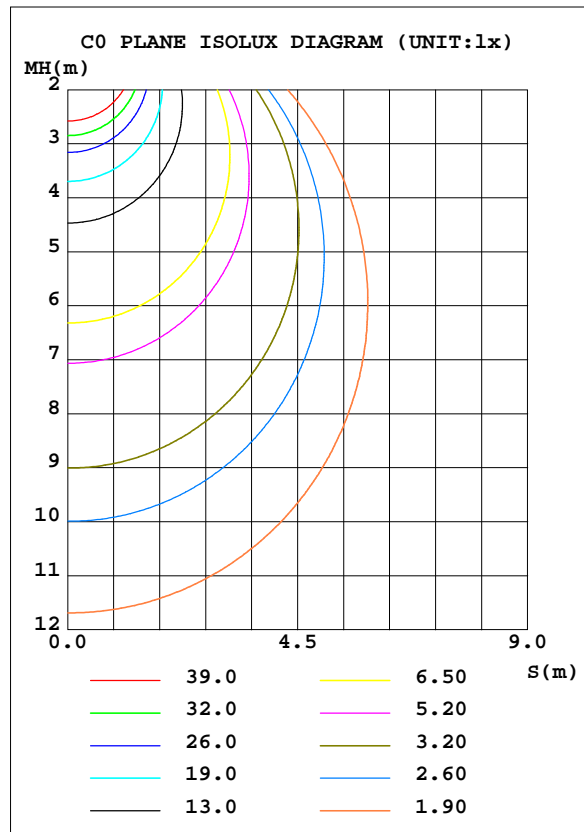
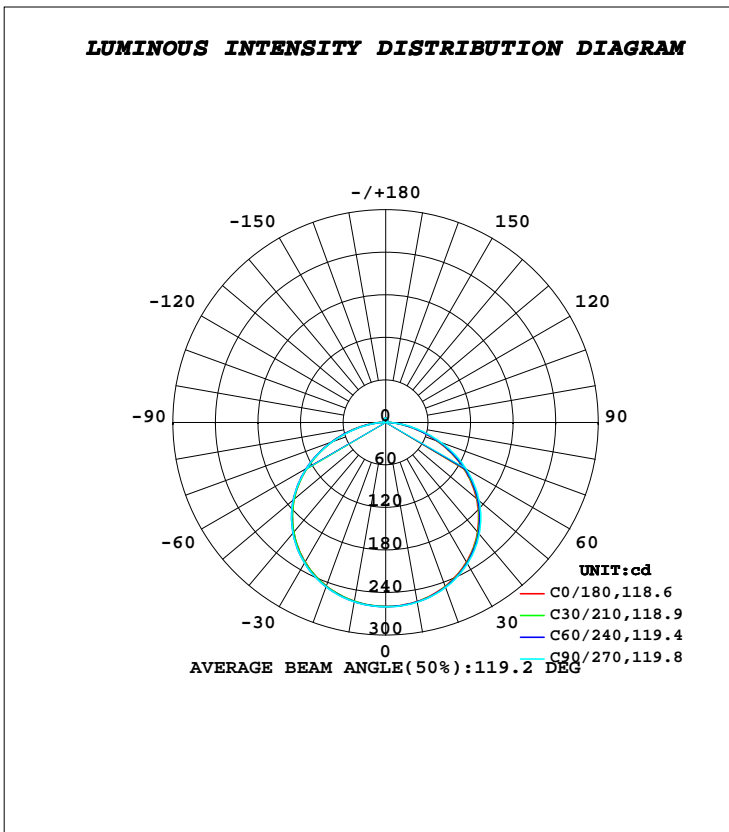


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:24.000V I:0.3560A P:8.6000W PF:1.0000 Freq:0Hz Lamp Flux:826.107x1 lm		
NAME: 127-067	TYPE:LED	
MFR.: Tronix Lighting		

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL		Imax(cd)	260.0	S/MH(C0/180)	1.30
NOMINAL POWER(W)	8.6	LOR(%)	100.0	S/MH(C90/270)	1.32
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	826.11	η UP, DN(C0-180)	1.4, 48.8
NOMINAL FLUX(lm)	826.107	CIE CLASS	DIRECT	η UP, DN(C180-360)	1.5, 48.4
LAMPS INSIDE	1	η up(%)	2.9	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)	24	η down(%)	97.1	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:

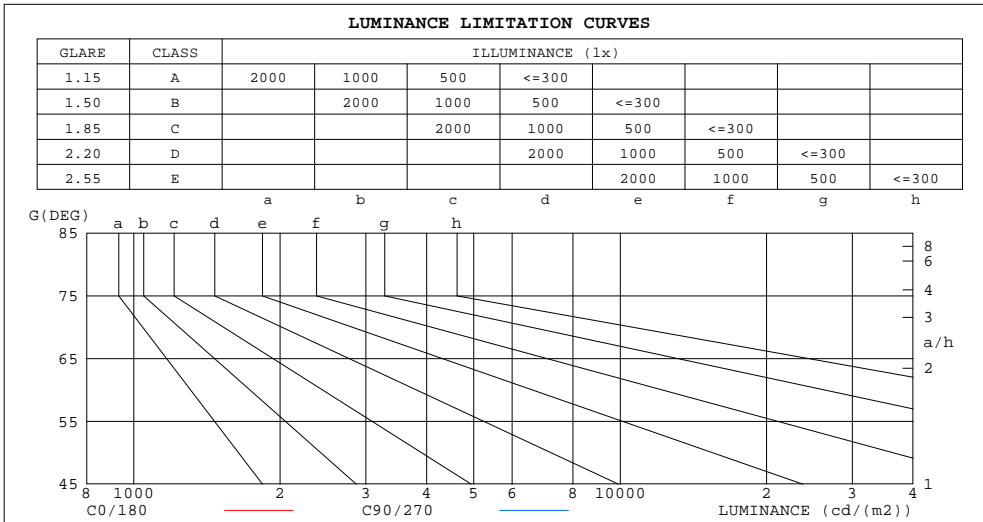
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	256.4	256.9	257.2	256.8	256.1	256.3	256.8	256.7	0- 10	24.65	24.65	2.98,2.98
20	245.8	246.7	247.5	246.8	245.4	246.0	246.7	246.3	10- 20	71.33	95.98	11.6,11.6
30	227.6	229.0	230.4	229.4	227.3	228.2	229.0	228.2	20- 30	110.0	206.0	24.9,24.9
40	201.5	203.3	205.4	204.3	201.7	202.7	203.5	202.4	30- 40	135.7	341.7	41.4,41.4
50	167.3	169.4	172.1	171.4	168.9	169.6	169.9	168.5	40- 50	144.5	486.1	58.8,58.8
60	125.4	127.6	130.9	130.8	127.9	128.2	128.2	126.2	50- 60	133.8	619.9	75,75
70	77.84	79.82	83.18	84.00	81.58	81.17	80.45	78.27	60- 70	103.7	723.6	87.6,87.6
80	31.74	33.09	35.96	37.24	36.36	35.05	33.32	32.10	70- 80	60.13	783.8	94.9,94.9
90	4.464	4.140	2.959	5.753	6.680	5.593	2.416	4.134	80- 90	18.71	802.5	97.1,97.1
100	2.226	2.206	2.225	2.254	2.569	2.641	2.634	2.609	90-100	2.975	805.4	97.5,97.5
110	2.817	2.761	2.810	2.818	3.086	3.130	3.130	3.077	100-110	2.835	808.3	97.8,97.8
120	3.430	3.338	3.385	3.433	3.638	3.691	3.658	3.606	110-120	3.206	811.5	98.2,98.2
130	4.055	3.928	3.979	4.062	4.182	4.245	4.187	4.130	120-130	3.411	814.9	98.6,98.6
140	4.621	4.503	4.573	4.648	4.690	4.771	4.724	4.645	130-140	3.380	818.3	99.1,99.1
150	5.152	5.042	5.141	5.192	5.174	5.273	5.260	5.160	140-150	3.076	821.4	99.4,99.4
160	5.665	5.576	5.682	5.698	5.671	5.724	5.747	5.638	150-160	2.504	823.9	99.7,99.7
170	6.069	6.018	6.115	6.100	6.036	6.074	6.120	6.027	160-170	1.661	825.5	99.9,99.9
180	6.170	6.184	6.259	6.214	6.148	6.186	6.283	6.215	170-180	0.5854	826.1	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:0.3560A P:8.6000W PF:1.0000 Freq:0Hz Lamp Flux:826.107x1 lm		
NAME: 127-041_067	TYPE:LED	
MFR.: Tronix Lighting		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	55494	62268
80	60937	69025
75	69441	75764
70	75865	81066
65	80495	84817
60	83570	87255
55	85610	88620
50	86772	89253
45	87377	89479

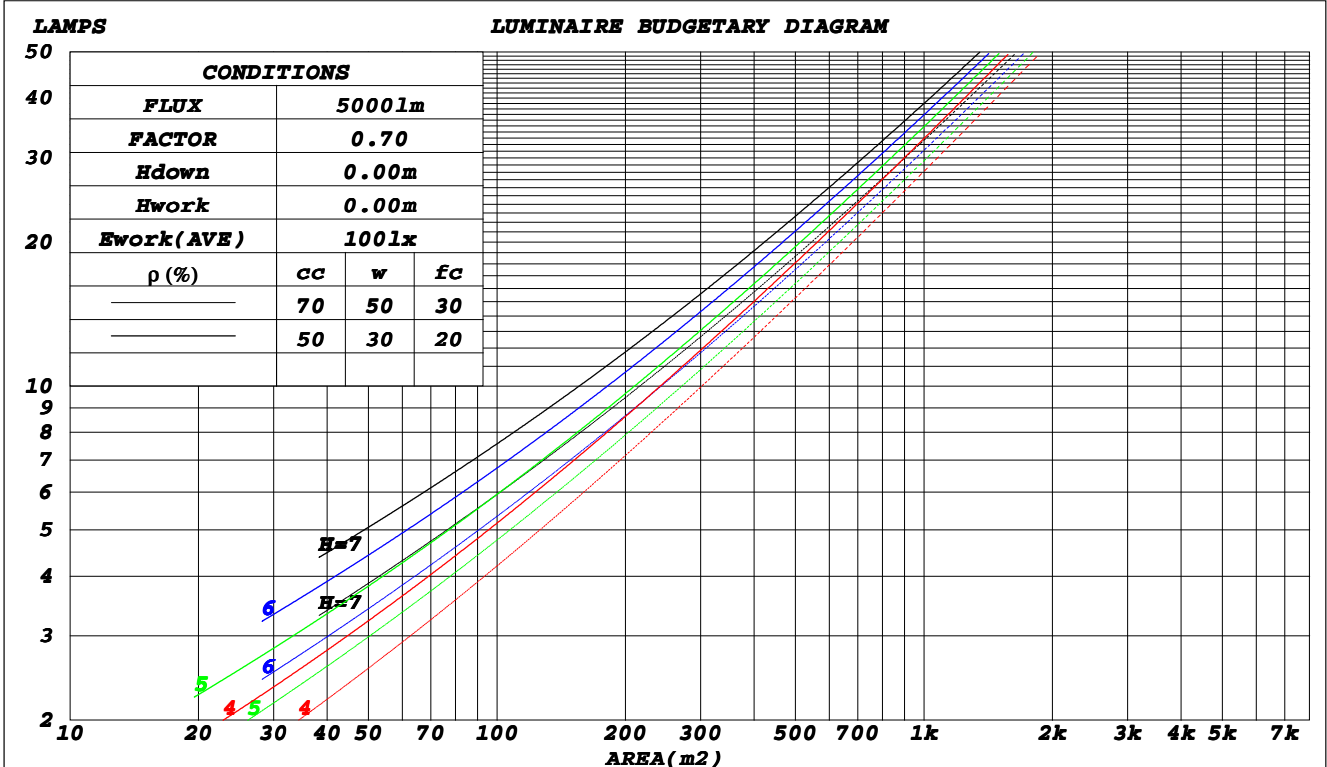
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2019-03-31

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:0.3560A P:8.6000W PF:1.0000 Freq:0Hz Lamp Flux:826.107x1 lm		
NAME: 127-041_067	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	.94	1.00	.96	.93	.95	.92	.89	.91	.88	.86	.87	.85	.83	.80
2.0	.89	.82	.76	.87	.81	.75	.83	.78	.73	.79	.75	.71	.76	.72	.69	.66
3.0	.78	.70	.63	.76	.68	.62	.73	.66	.61	.70	.64	.59	.67	.62	.58	.56
4.0	.69	.60	.53	.67	.59	.53	.64	.57	.51	.62	.56	.50	.59	.54	.49	.47
5.0	.61	.52	.45	.60	.51	.45	.58	.50	.44	.55	.49	.44	.53	.47	.43	.41
6.0	.55	.46	.39	.54	.45	.39	.52	.44	.39	.50	.43	.38	.48	.42	.37	.35
7.0	.50	.41	.35	.49	.40	.34	.47	.40	.34	.45	.39	.34	.44	.38	.33	.31
8.0	.45	.37	.31	.45	.36	.31	.43	.36	.30	.42	.35	.30	.40	.34	.30	.28
9.0	.42	.33	.28	.41	.33	.28	.39	.32	.27	.38	.32	.27	.37	.31	.27	.25
10.0	.38	.30	.25	.38	.30	.25	.36	.29	.25	.35	.29	.24	.34	.28	.24	.22



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:0.3560A P:8.6000W PF:1.0000 Freq:0Hz Lamp Flux:826.107x1 lm		
NAME: 127-041_067	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	.318	.181	.057	.310	.177	.056	.295	.169	.054	.281	.162	.052	.269	.156	.050	
2.0	.297	.163	.050	.290	.160	.049	.277	.154	.048	.265	.149	.047	.254	.143	.045	
3.0	.274	.146	.044	.268	.144	.043	.256	.139	.042	.245	.134	.041	.235	.130	.040	
4.0	.253	.131	.039	.247	.129	.038	.236	.125	.037	.227	.122	.037	.218	.118	.036	
5.0	.233	.119	.034	.228	.117	.034	.219	.114	.034	.210	.111	.033	.202	.108	.032	
6.0	.216	.108	.031	.211	.107	.031	.203	.104	.030	.195	.101	.030	.188	.099	.029	
7.0	.201	.099	.028	.197	.098	.028	.189	.096	.028	.182	.093	.027	.175	.091	.027	
8.0	.187	.091	.026	.184	.090	.026	.177	.088	.025	.170	.086	.025	.164	.084	.025	
9.0	.175	.085	.024	.172	.084	.024	.166	.082	.023	.160	.080	.023	.154	.078	.023	
10.0	.165	.079	.022	.162	.078	.022	.156	.076	.022	.151	.075	.021	.146	.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	.133	.103	.115	.092	.072	.066	.053	.042	.021	.017	.014	
3.0	.188	.137	.096	.161	.118	.083	.110	.082	.058	.064	.048	.034	.020	.016	.011	
4.0	.180	.123	.080	.154	.107	.070	.106	.074	.049	.061	.044	.029	.020	.014	.010	
5.0	.173	.113	.069	.148	.098	.060	.102	.068	.043	.059	.040	.025	.019	.013	.008	
6.0	.165	.105	.061	.142	.091	.053	.098	.064	.038	.057	.037	.022	.018	.012	.007	
7.0	.159	.098	.056	.136	.085	.048	.094	.060	.034	.055	.035	.020	.018	.011	.007	
8.0	.152	.092	.051	.131	.080	.045	.091	.056	.032	.053	.033	.019	.017	.011	.006	
9.0	.146	.087	.048	.126	.076	.042	.087	.053	.030	.051	.031	.018	.016	.010	.006	
10.0	.140	.083	.045	.121	.072	.039	.084	.051	.028	.049	.030	.017	.016	.010	.006	

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:0.3560A P:8.6000W PF:1.0000 Freq:0Hz Lamp Flux:826.107x1 lm		
NAME: 127-041_067	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	28.2	29.7	28.6	30.0	30.3	28.4	29.9	28.7	30.1	30.4
3H	29.8	31.2	30.1	31.4	31.7	30.0	31.4	30.3	31.7	32.0
4H	30.4	31.7	30.7	32.0	32.3	30.6	31.9	31.0	32.2	32.6
6H	30.8	32.0	31.1	32.3	32.7	31.1	32.3	31.4	32.6	33.0
8H	30.9	32.1	31.3	32.4	32.8	31.2	32.4	31.6	32.7	33.1
12H	31.0	32.1	31.4	32.5	32.8	31.3	32.5	31.7	32.8	33.2
4H 2H	28.9	30.2	29.2	30.5	30.8	29.0	30.3	29.3	30.6	30.9
3H	30.6	31.7	31.0	32.1	32.4	30.7	31.9	31.1	32.2	32.6
4H	31.3	32.3	31.7	32.7	33.1	31.5	32.5	31.9	32.9	33.3
6H	31.8	32.7	32.2	33.1	33.6	32.1	33.0	32.5	33.4	33.8
8H	32.0	32.9	32.4	33.3	33.7	32.3	33.1	32.7	33.6	34.0
12H	32.1	32.9	32.6	33.3	33.8	32.4	33.2	32.9	33.6	34.1
8H 4H	31.5	32.4	32.0	32.8	33.3	31.7	32.6	32.2	33.0	33.5
6H	32.2	32.9	32.7	33.4	33.9	32.4	33.2	32.9	33.6	34.1
8H	32.5	33.1	33.0	33.6	34.1	32.7	33.4	33.2	33.9	34.4
12H	32.7	33.2	33.2	33.7	34.3	33.0	33.5	33.5	34.0	34.5
12H 4H	31.6	32.4	32.0	32.8	33.3	31.7	32.5	32.2	33.0	33.4
6H	32.3	32.9	32.8	33.4	33.9	32.5	33.1	33.0	33.6	34.1
8H	32.6	33.1	33.1	33.6	34.2	32.8	33.4	33.3	33.9	34.4
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	+ 0.2 / - 0.3					+ 0.2 / - 0.3				

CIE Pub.117, 826.1 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -0.7)

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:0.3560A P:8.6000W PF:1.0000 Freq:0Hz Lamp Flux:826.107x1 lm		
NAME: 127-041_067	TYPE:LED	
MFR.: Tronix Lighting		

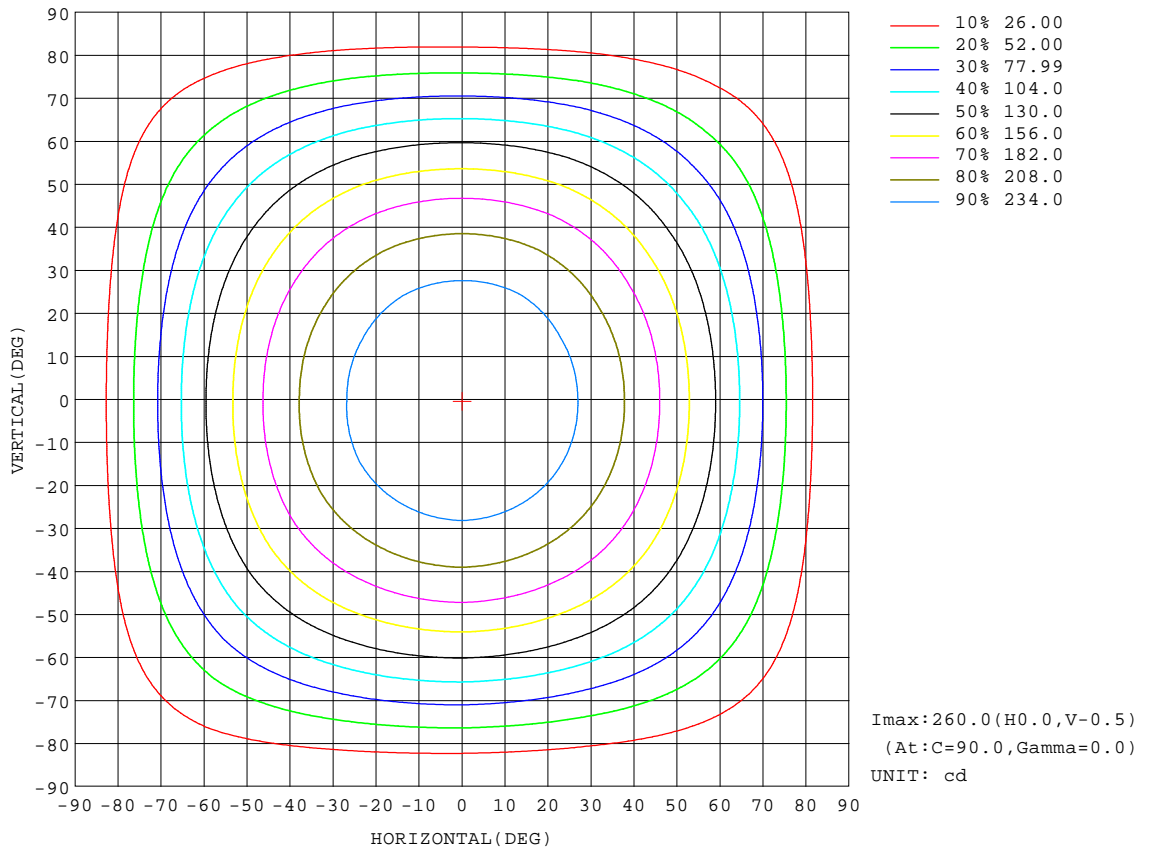
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	56	44	37	55	43	37	53	43	36	30
0.80	66	54	46	64	53	46	62	52	45	38
1.00	74	63	55	73	62	55	70	63	54	47
1.25	81	70	63	80	70	62	77	68	61	54
1.50	86	76	69	84	75	68	81	73	67	59
2.00	93	84	78	91	83	77	87	80	75	66
2.50	97	89	83	95	88	82	91	85	80	71
3.00	101	94	88	98	92	87	94	89	84	75
4.00	105	99	94	102	97	93	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: 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:0.3560A P:8.6000W PF:1.0000 Freq:0Hz Lamp Flux:826.107x1 lm		
NAME: 127-041_067	TYPE:LED	
MFR.: Tronix Lighting		



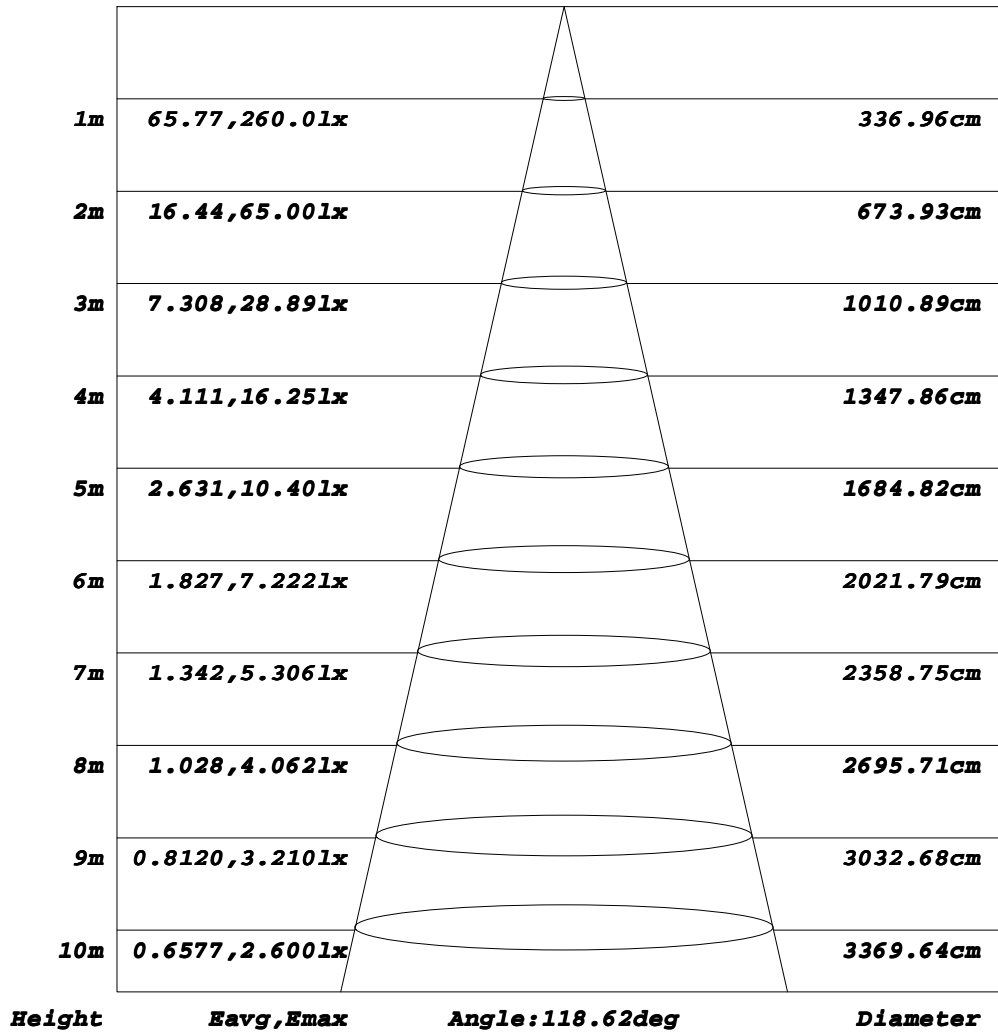
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2019-03-31

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:0.3560A P:8.6000W PF:1.0000 Freq:0Hz Lamp Flux:826.107x1 lm		
NAME: 127-041_067	TYPE:LED	
MFR.: Tronix Lighting		

Flux out:619.9 lm



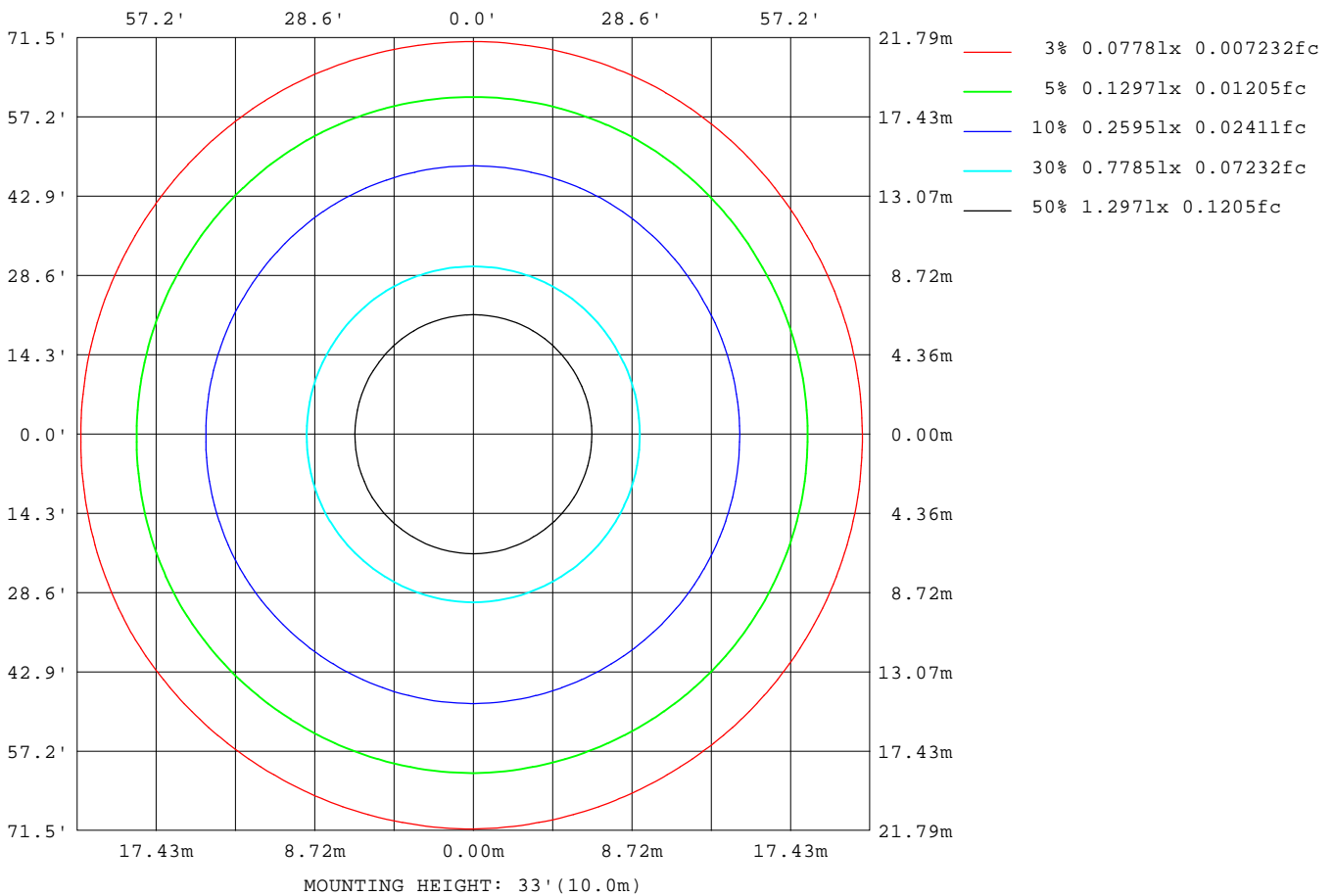
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

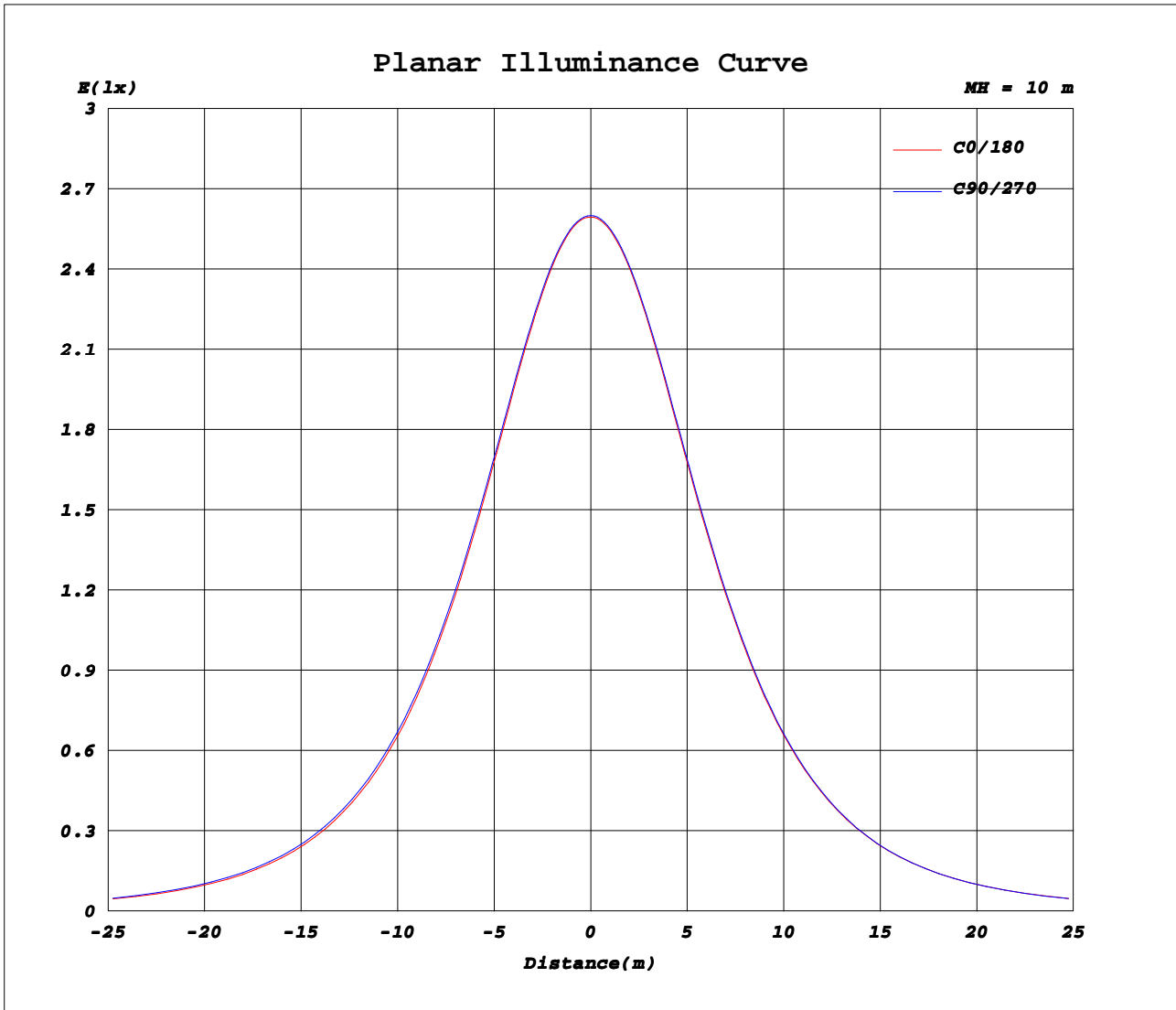
Test:U:24.000V I:0.3560A P:8.6000W PF:1.0000 Freq:0Hz Lamp Flux:826.107x1 lm		
NAME: 127-041_067	TYPE:LED	
MFR.: Tronix Lighting		



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:0.3560A P:8.6000W PF:1.0000 Freq:0Hz Lamp Flux:826.107x1 lm		
NAME: 127-041_067	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	259	259	260	260	260	260	259	259	260	260	260	260							
5	259	259	259	259	259	259	259	259	259	259	259	259							
10	256	257	257	257	257	257	256	256	257	257	257	256							
15	252	253	253	253	253	253	252	252	252	253	253	252							
20	246	246	247	247	247	247	245	245	246	247	247	246							
25	238	238	239	240	239	239	237	237	239	239	239	238							
30	228	229	229	230	230	229	227	228	229	229	229	227							
35	216	217	218	219	218	218	215	216	217	217	217	215							
40	201	203	204	205	204	204	202	202	204	203	204	201							
45	185	187	188	190	189	189	186	186	188	188	188	185							
50	167	169	170	172	171	171	169	169	171	170	170	167							
55	147	149	150	152	152	152	149	149	150	150	150	146							
60	125	127	128	131	131	131	128	127	129	128	128	124							
65	102	103	105	108	108	108	105	105	106	105	104	101							
70	77.8	79.2	80.4	83.2	83.4	84.6	81.6	80.9	81.4	80.5	79.8	76.7							
75	53.9	55.3	56.0	58.8	59.2	60.9	58.2	57.0	57.3	55.9	55.6	52.7							
80	31.7	33.1	33.1	36.0	36.1	38.4	36.4	35.1	35.1	33.3	33.4	30.8							
85	14.5	15.0	14.9	16.3	17.2	19.3	18.4	17.0	16.4	14.5	14.7	13.6							
90	4.46	4.40	3.88	2.96	4.85	6.66	6.68	5.99	5.20	2.42	3.92	4.34							
95	2.15	2.06	2.00	1.95	2.13	2.44	2.94	2.89	2.65	2.40	2.48	2.50							
100	2.23	2.21	2.20	2.22	2.25	2.26	2.57	2.65	2.64	2.63	2.60	2.62							
105	2.52	2.48	2.47	2.52	2.53	2.52	2.83	2.87	2.87	2.88	2.82	2.84							
110	2.82	2.76	2.76	2.81	2.82	2.82	3.09	3.13	3.13	3.13	3.07	3.08							
115	3.12	3.05	3.04	3.10	3.12	3.12	3.35	3.41	3.40	3.39	3.33	3.35							
120	3.43	3.35	3.33	3.38	3.43	3.43	3.64	3.70	3.68	3.66	3.59	3.62							
125	3.75	3.64	3.62	3.68	3.74	3.75	3.91	3.98	3.96	3.92	3.85	3.89							
130	4.06	3.94	3.92	3.98	4.06	4.06	4.18	4.26	4.23	4.19	4.11	4.15							
135	4.34	4.23	4.20	4.28	4.36	4.37	4.44	4.53	4.50	4.45	4.36	4.41							
140	4.62	4.52	4.48	4.57	4.65	4.65	4.69	4.78	4.76	4.72	4.63	4.66							
145	4.88	4.79	4.76	4.85	4.91	4.92	4.93	5.02	5.02	4.99	4.90	4.91							
150	5.15	5.05	5.04	5.14	5.20	5.19	5.17	5.27	5.28	5.26	5.16	5.16							
155	5.41	5.31	5.31	5.42	5.46	5.44	5.43	5.50	5.52	5.51	5.42	5.39							
160	5.66	5.57	5.58	5.68	5.71	5.69	5.67	5.71	5.74	5.75	5.66	5.62							
165	5.89	5.81	5.83	5.92	5.93	5.90	5.87	5.90	5.94	5.95	5.88	5.82							
170	6.07	6.00	6.03	6.11	6.12	6.08	6.04	6.05	6.10	6.12	6.06	5.99							
175	6.16	6.13	6.18	6.25	6.24	6.20	6.08	6.10	6.17	6.20	6.17	6.07							
180	6.17	6.15	6.21	6.26	6.25	6.18	6.15	6.15	6.22	6.28	6.26	6.17							

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: