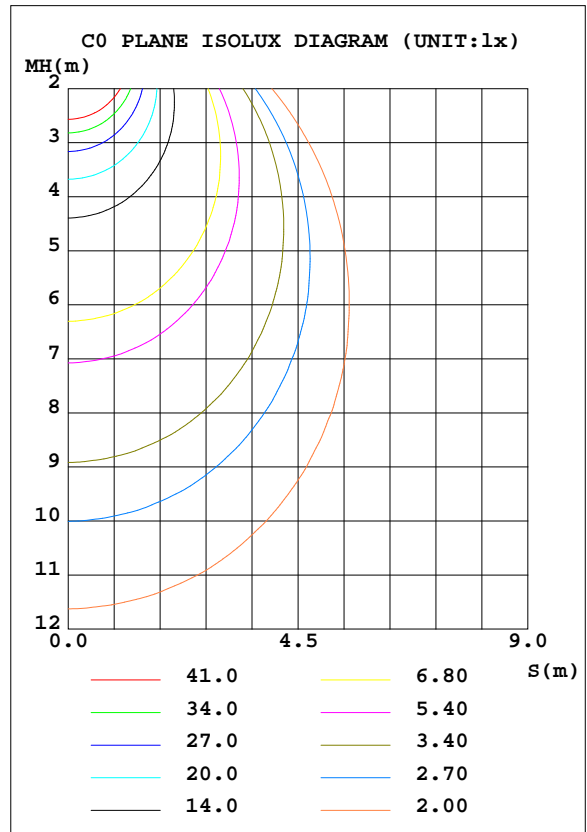
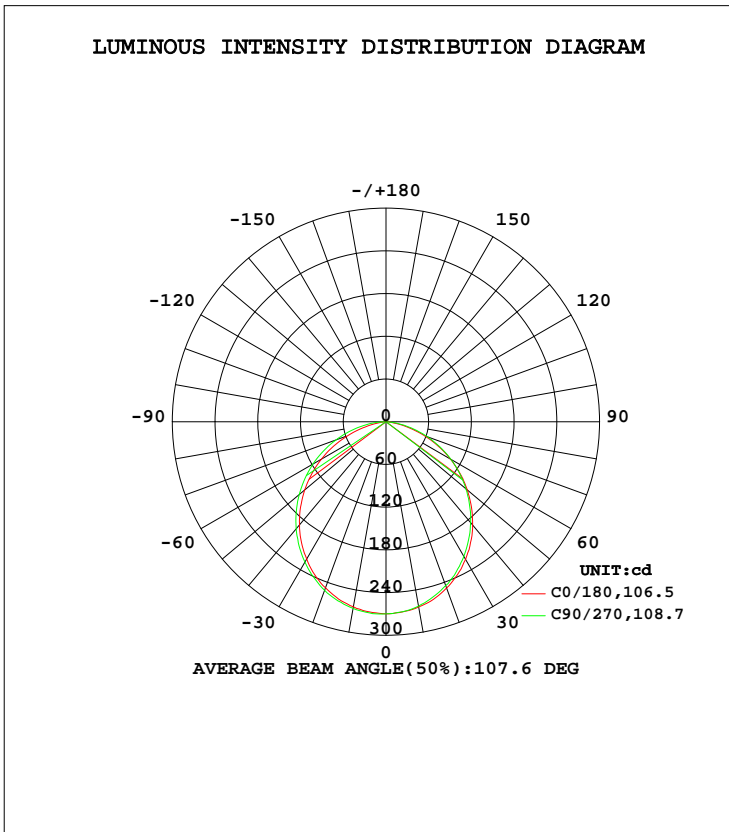


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:230.71V I:0.0421A P:9.0823W PF:0.9360 Freq:50.00Hz Lamp Flux:725.97lx1 lm		
NAME: 136-187_4000K	TYPE:10W	WEIGHT:
SPEC.:4000K	DIM.:	SERIAL No.:
MFR.: Tronix Lighting	SUR.:0.0775	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 79.93 lm/W			
MODEL	136-187_4000K	I _{max} (cd)	270.2	S/MH(C0/180)	1.23
NOMINAL POWER(W)	10	LOR(%)	100.0	S/MH(C90/270)	1.25
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	725.97	η UP, DN(C0-180)	0.0,48.7
NOMINAL FLUX(lm)	725.971	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,51.3
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)		η down(%)	100.0	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-01-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
 Humidity:65.0%
 Test Distance:9.900m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

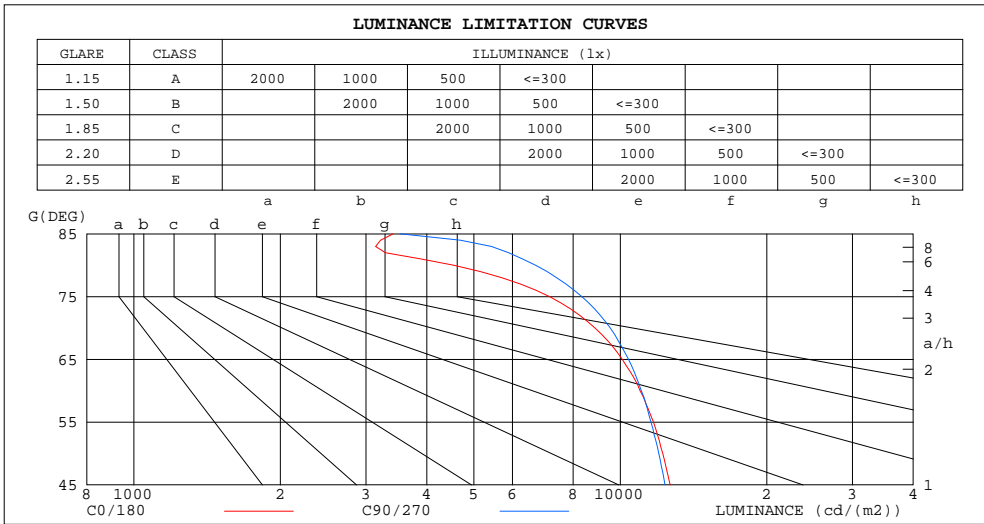
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	lum, lamp
10	264.1	263.6	263.0	262.4	263.9	266.0	266.2	265.4	0- 10	25.49	25.49	3.51,3.51
20	248.6	246.8	245.0	245.6	248.3	250.8	252.0	250.5	10- 20	72.70	98.20	13.5,13.5
30	223.4	221.1	218.6	219.6	222.8	226.4	227.8	226.2	20- 30	109.2	207.4	28.6,28.6
40	189.2	186.9	185.1	185.7	189.1	194.0	196.4	193.8	30- 40	129.8	337.1	46.4,46.4
50	149.1	147.8	146.7	146.6	149.1	155.8	159.1	155.3	40- 50	132.0	469.1	64.6,64.6
60	104.1	105.0	105.1	104.1	104.5	113.6	118.2	112.9	50- 60	116.3	585.4	80.6,80.6
70	57.50	60.34	62.01	59.23	57.30	68.63	75.06	68.35	60- 70	85.10	670.5	92.4,92.4
80	14.96	20.84	22.11	20.50	13.84	26.17	33.07	26.41	70- 80	44.35	714.9	98.5,98.5
90	2.109	2.877	2.457	3.140	1.966	3.448	2.500	3.404	80- 90	11.10	726.0	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: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-01-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
 Humidity:65.0%
 Test Distance:9.900m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:230.71V I:0.0421A P:9.0823W PF:0.9360 Freq:50.00Hz Lamp Flux:725.971x1 lm		
NAME: 136-187_4000K	TYPE:10W	WEIGHT:
SPEC.:4000K	DIM.:	SERIAL No.:
MFR.: Tronix Lighting	SUR.:0.0775	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	3412	3530
80	4542	6693
75	7150	8331
70	8863	9532
65	10091	10395
60	10981	11046
55	11696	11560
50	12225	11996
45	12658	12356

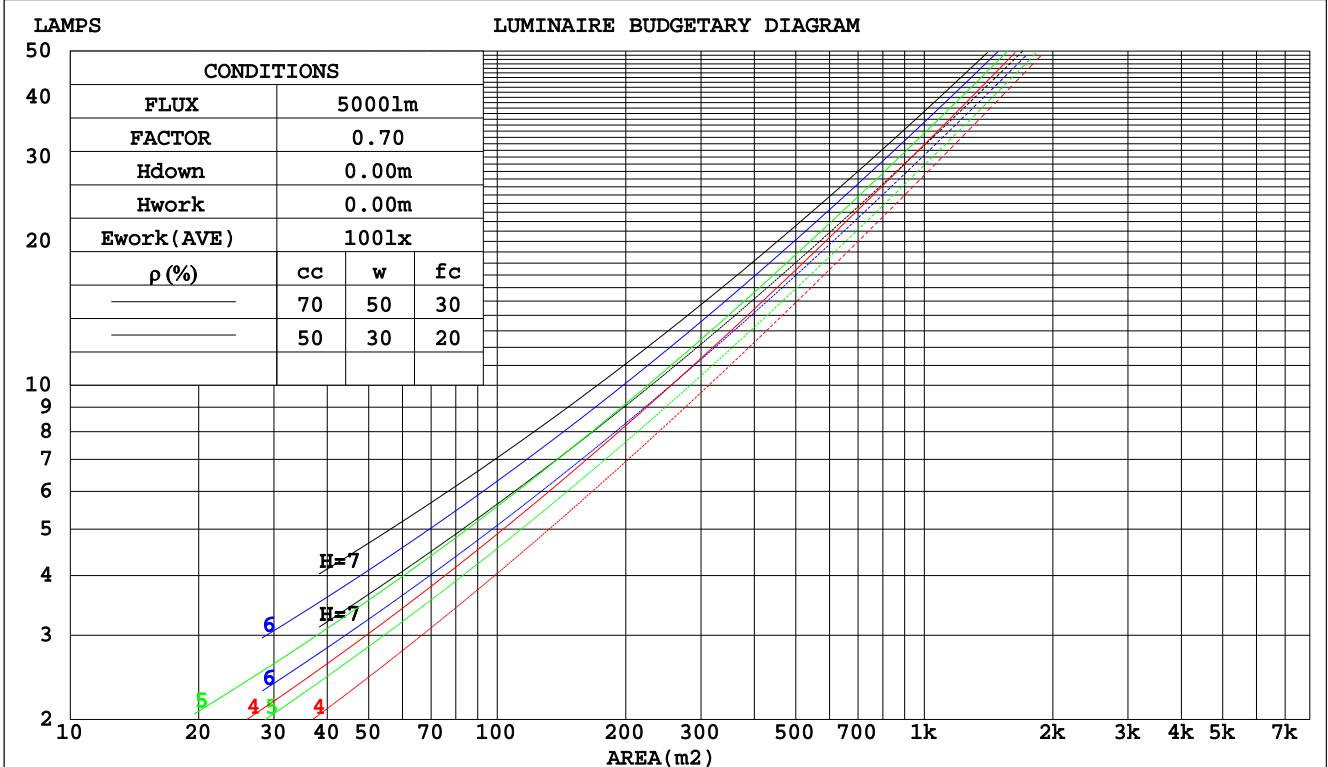
C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-01-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
 Humidity:65.0%
 Test Distance:9.900m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.71V I:0.0421A P:9.0823W PF:0.9360 Freq:50.00Hz Lamp Flux:725.971x1 lm		
NAME: 136-187_4000K	TYPE:10W	WEIGHT:
SPEC.:4000K	DIM.:	SERIAL No.:
MFR.: Tronix Lighting	SUR.:0.0775	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pw																
pfc	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	.00
1.0	1.04	1.00	.97	1.02	.98	.95	.98	.95	.92	.94	.91	.89	.90	.88	.86	.84
2.0	.91	.85	.79	.89	.83	.78	.86	.81	.76	.83	.78	.74	.80	.76	.73	.71
3.0	.80	.72	.66	.79	.71	.65	.76	.69	.64	.73	.68	.63	.70	.66	.62	.60
4.0	.71	.63	.56	.70	.62	.56	.67	.60	.55	.65	.59	.54	.63	.58	.53	.51
5.0	.64	.55	.48	.63	.54	.48	.60	.53	.47	.59	.52	.47	.57	.51	.46	.44
6.0	.57	.49	.42	.56	.48	.42	.55	.47	.42	.53	.46	.41	.51	.46	.41	.39
7.0	.52	.43	.37	.51	.43	.37	.50	.42	.37	.48	.42	.37	.47	.41	.36	.34
8.0	.48	.39	.33	.47	.39	.33	.46	.38	.33	.44	.38	.33	.43	.37	.33	.31
9.0	.44	.36	.30	.43	.35	.30	.42	.35	.30	.41	.34	.30	.40	.34	.29	.28
10.0	.40	.32	.27	.40	.32	.27	.39	.32	.27	.38	.31	.27	.37	.31	.27	.25



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-01-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
 Humidity:65.0%
 Test Distance:9.900m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:230.71V I:0.0421A P:9.0823W PF:0.9360 Freq:50.00Hz Lamp Flux:725.971x1 lm		
NAME: 136-187_4000K	TYPE:10W	WEIGHT:
SPEC.:4000K	DIM.:	SERIAL No.:
MFR.: Tronix Lighting	SUR.:0.0775	Shielding Angle:

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.299	.170	.054	.292	.167	.053	.279	.160	.051	.267	.154	.049	.256	.148	.048	
2.0	.284	.156	.048	.278	.153	.047	.266	.148	.046	.255	.143	.045	.245	.139	.044	
3.0	.264	.140	.042	.258	.138	.042	.248	.134	.041	.239	.131	.040	.230	.127	.039	
4.0	.244	.127	.037	.240	.125	.037	.230	.122	.036	.222	.119	.036	.214	.116	.035	
5.0	.227	.115	.033	.222	.114	.033	.214	.112	.033	.207	.109	.032	.200	.107	.032	
6.0	.211	.106	.030	.207	.104	.030	.200	.102	.030	.193	.100	.029	.186	.098	.029	
7.0	.196	.097	.028	.193	.096	.027	.186	.094	.027	.180	.092	.027	.175	.091	.027	
8.0	.184	.090	.025	.181	.089	.025	.175	.087	.025	.169	.086	.025	.164	.084	.025	
9.0	.172	.083	.023	.169	.083	.023	.164	.081	.023	.159	.080	.023	.155	.079	.023	
10.0	.162	.078	.022	.160	.077	.022	.155	.076	.021	.151	.075	.021	.146	.074	.021	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	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	.180	.156	.135	.154	.134	.116	.105	.092	.080	.060	.053	.047	.019	.017	.015	
2.0	.171	.132	.099	.147	.114	.086	.100	.079	.060	.058	.046	.035	.019	.015	.011	
3.0	.163	.114	.075	.140	.099	.065	.096	.068	.046	.056	.040	.027	.018	.013	.009	
4.0	.156	.101	.059	.134	.087	.051	.092	.061	.036	.053	.036	.021	.017	.012	.007	
5.0	.148	.090	.048	.127	.078	.042	.088	.055	.029	.051	.032	.017	.016	.010	.006	
6.0	.141	.082	.040	.121	.071	.034	.084	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.134	.075	.034	.116	.065	.029	.080	.046	.021	.046	.027	.012	.015	.009	.004	
8.0	.128	.069	.029	.110	.060	.025	.076	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.122	.064	.025	.105	.056	.022	.073	.039	.016	.042	.023	.009	.014	.008	.003	
10.0	.116	.060	.023	.100	.052	.020	.070	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-01-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
 Humidity:65.0%
 Test Distance:9.900m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:230.71V I:0.0421A P:9.0823W PF:0.9360 Freq:50.00Hz Lamp Flux:725.971x1 lm										
NAME: 136-187_4000K					TYPE:10W			WEIGHT:		
SPEC.:4000K					DIM.:			SERIAL No.:		
MFR.: Tronix Lighting					SUR.:0.0775			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	21.3	22.8	21.5	23.0	23.2	21.2	22.7	21.5	22.9	23.1
3H	22.5	23.9	22.8	24.1	24.4	22.6	24.0	22.9	24.2	24.4
4H	22.9	24.2	23.2	24.5	24.7	23.1	24.4	23.4	24.6	24.9
6H	23.0	24.3	23.4	24.6	24.8	23.4	24.6	23.7	24.9	25.2
8H	23.0	24.2	23.4	24.5	24.8	23.4	24.6	23.8	24.9	25.2
12H	23.0	24.2	23.4	24.5	24.8	23.4	24.6	23.8	24.9	25.2
4H 2H	21.8	23.1	22.1	23.4	23.6	21.8	23.1	22.1	23.4	23.6
3H	23.2	24.4	23.6	24.7	25.0	23.3	24.5	23.7	24.8	25.1
4H	23.7	24.8	24.1	25.1	25.4	23.9	24.9	24.3	25.3	25.6
6H	24.0	24.9	24.4	25.2	25.6	24.3	25.2	24.7	25.6	25.9
8H	24.0	24.8	24.4	25.2	25.6	24.4	25.3	24.8	25.6	26.0
12H	24.0	24.8	24.4	25.2	25.6	24.4	25.2	24.9	25.6	26.0
8H 4H	23.9	24.8	24.3	25.1	25.5	24.1	24.9	24.5	25.3	25.7
6H	24.3	25.0	24.7	25.4	25.8	24.6	25.3	25.0	25.7	26.1
8H	24.3	25.0	24.8	25.4	25.8	24.7	25.4	25.2	25.8	26.3
12H	24.4	24.9	24.8	25.4	25.8	24.8	25.4	25.3	25.8	26.3
12H 4H	23.9	24.7	24.3	25.1	25.5	24.1	24.9	24.5	25.2	25.6
6H	24.3	24.9	24.7	25.3	25.8	24.6	25.2	25.1	25.7	26.1
8H	24.4	24.9	24.9	25.4	25.8	24.8	25.3	25.3	25.8	26.3
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.2				
1.5H	+ 0.2 / - 0.4					+ 0.2 / - 0.3				
2.0H	+ 0.3 / - 0.3					+ 0.3 / - 0.3				

CIE Pub.117, 726.0 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -1.1)

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-01-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
 Humidity:65.0%
 Test Distance:9.900m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:230.71V I:0.0421A P:9.0823W PF:0.9360 Freq:50.00Hz Lamp Flux:725.971x1 lm		
NAME: 136-187_4000K	TYPE:10W	WEIGHT:
SPEC.:4000K	DIM.:	SERIAL No.:
MFR.: Tronix Lighting	SUR.:0.0775	Shielding Angle:

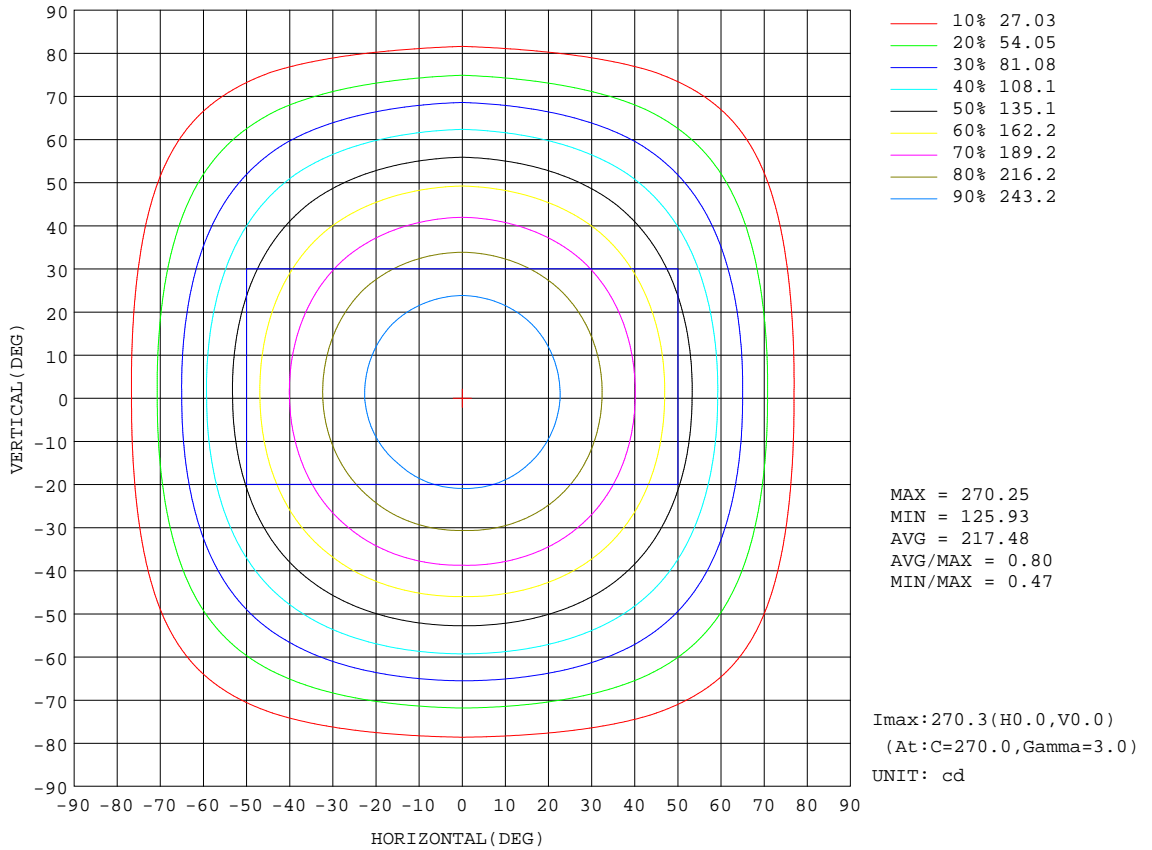
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	58	47	40	58	47	40	57	46	40	34
0.80	69	57	50	68	57	50	66	56	49	43
1.00	77	66	59	76	66	59	74	67	58	51
1.25	84	74	67	83	73	66	80	72	66	59
1.50	89	79	73	87	79	72	84	77	71	64
2.00	96	87	81	94	86	80	91	84	79	71
2.50	100	92	86	98	91	85	94	88	83	75
3.00	103	96	91	101	95	90	97	92	88	79
4.00	107	101	97	104	99	95	100	96	93	84
5.00	109	104	101	107	102	99	102	99	96	87
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-01-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
 Humidity:65.0%
 Test Distance:9.900m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:230.71V I:0.0421A P:9.0823W PF:0.9360 Freq:50.00Hz Lamp Flux:725.97lx1 lm		
NAME: 136-187_4000K	TYPE:10W	WEIGHT:
SPEC.:4000K	DIM.:	SERIAL No.:
MFR.: Tronix Lighting	SUR.:0.0775	Shielding Angle:

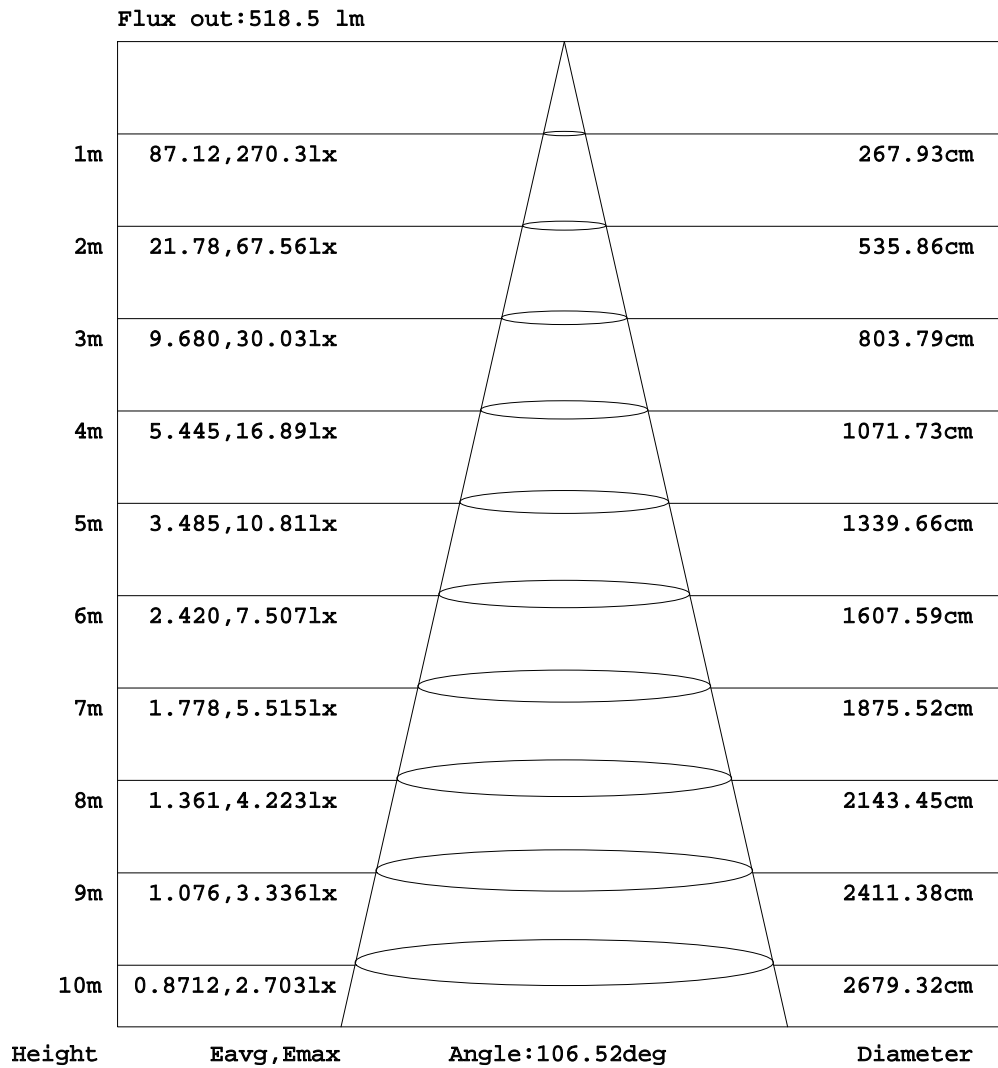


C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2020-01-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
 Humidity: 65.0%
 Test Distance: 9.900m [K=1.0000]
 Remarks:

AAI Figure

Test:U:230.71V I:0.0421A P:9.0823W PF:0.9360 Freq:50.00Hz Lamp Flux:725.971x1 lm		
NAME: 136-187_4000K	TYPE:10W	WEIGHT:
SPEC.:4000K	DIM.:	SERIAL No.:
MFR.: Tronix Lighting	SUR.:0.0775	Shielding Angle:



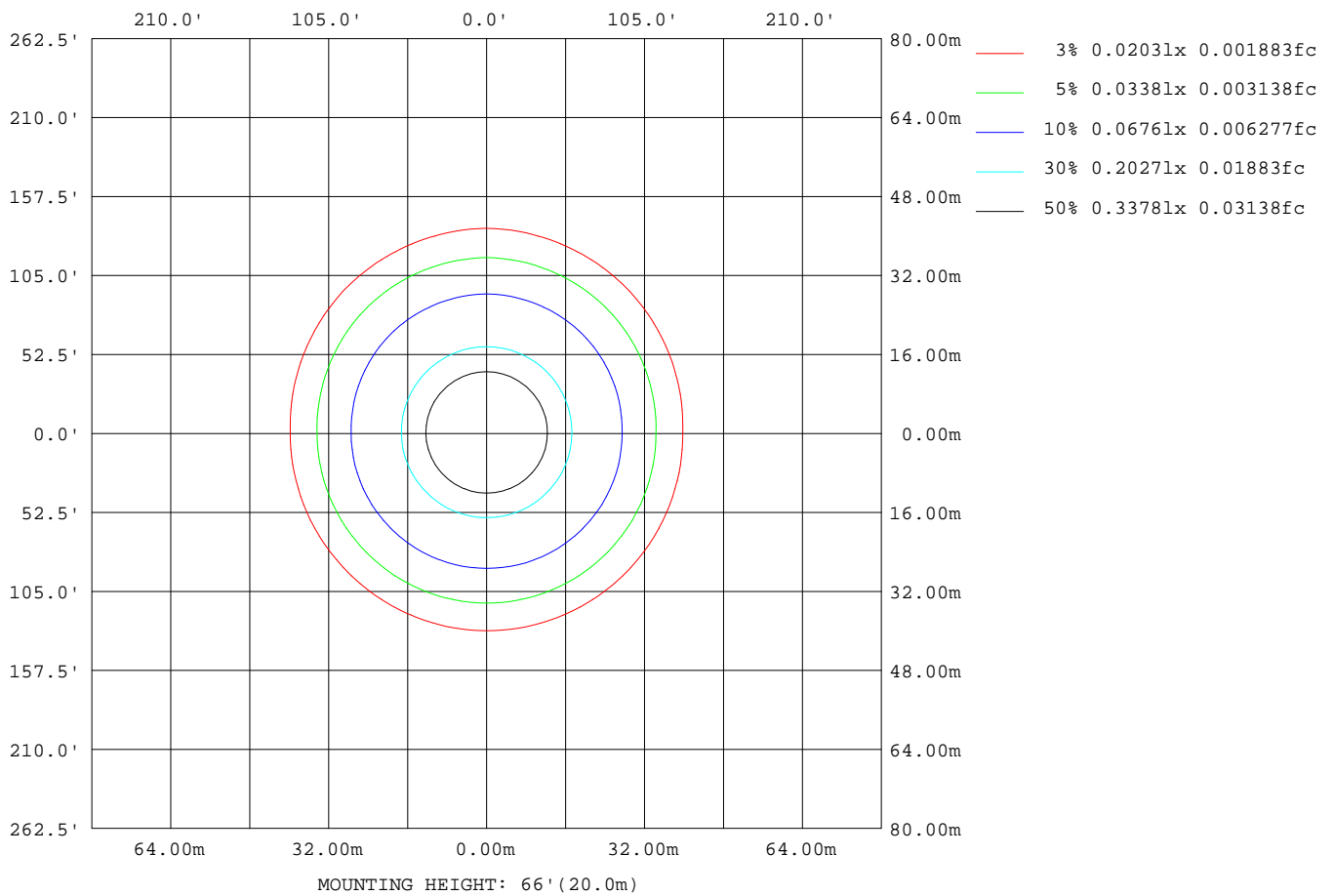
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-01-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
 Humidity:65.0%
 Test Distance:9.900m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:230.71V I:0.0421A P:9.0823W PF:0.9360 Freq:50.00Hz Lamp Flux:725.971x1 lm		
NAME: 136-187_4000K	TYPE:10W	WEIGHT:
SPEC.:4000K	DIM.:	SERIAL No.:
MFR.: Tronix Lighting	SUR.:0.0775	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-01-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
 Humidity:65.0%
 Test Distance:9.900m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:230.71V I:0.0421A P:9.0823W PF:0.9360 Freq:50.00Hz Lamp Flux:725.971x1 lm		
NAME: 136-187_4000K	TYPE:10W	WEIGHT:
SPEC.:4000K	DIM.:	SERIAL No.:
MFR.: Tronix Lighting	SUR.:0.0775	Shielding Angle:

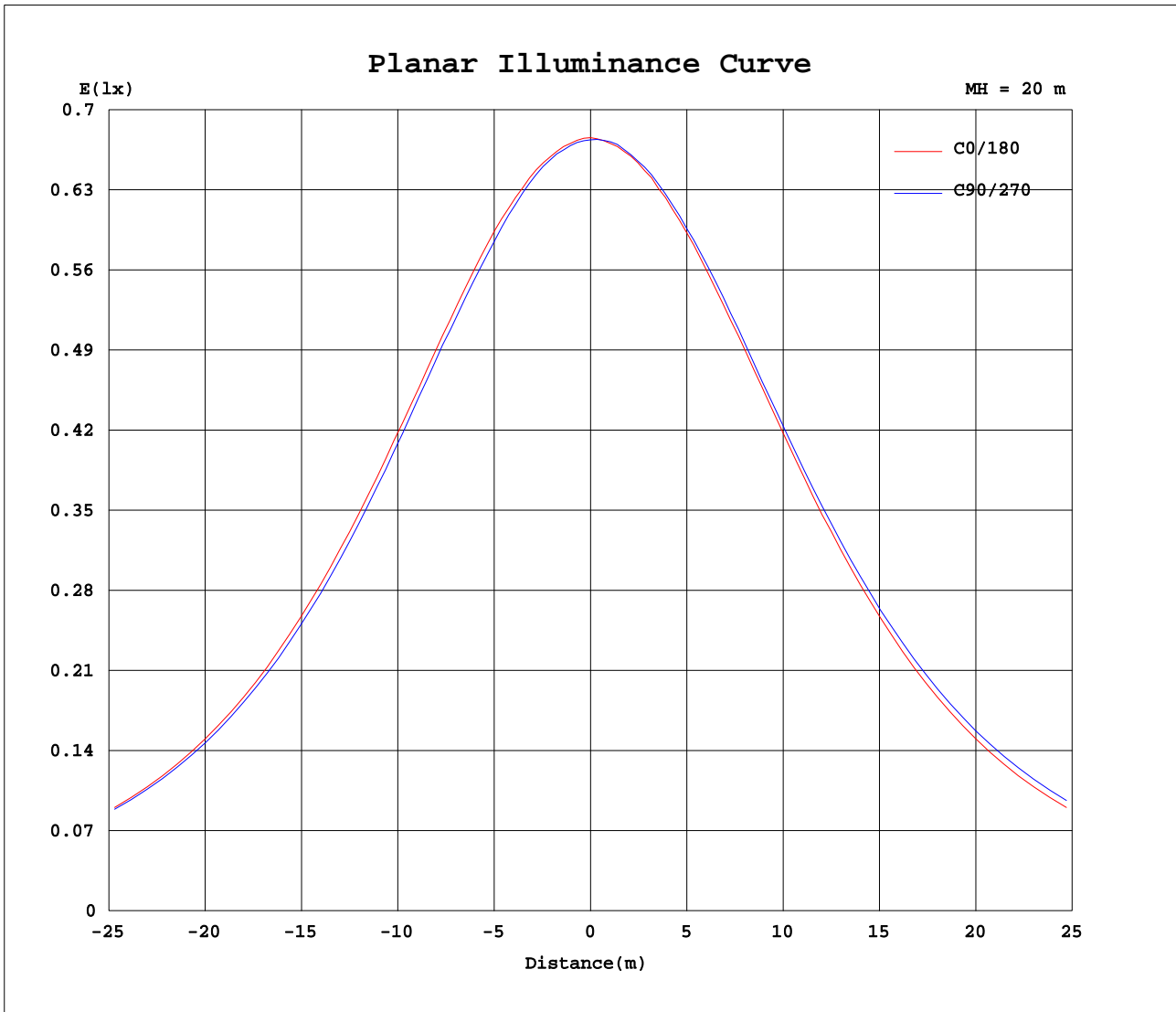
AvgL	cd/m2
L_0~180(65)av	10087
L_0~180(75)av	7052
L_0~180(85)av	3321
L_90~270(65)av	11213
L_90~270(75)av	9622
L_90~270(85)av	6346
L_45(65)av	10779
L_45(75)av	8624
L_45(85)av	6378

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-01-13

γ Range: 0 - 90DEG
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 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
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 Test Distance:9.900m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2020-01-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
 Humidity: 65.0%
 Test Distance: 9.900m [K=1.0000]
 Remarks:

