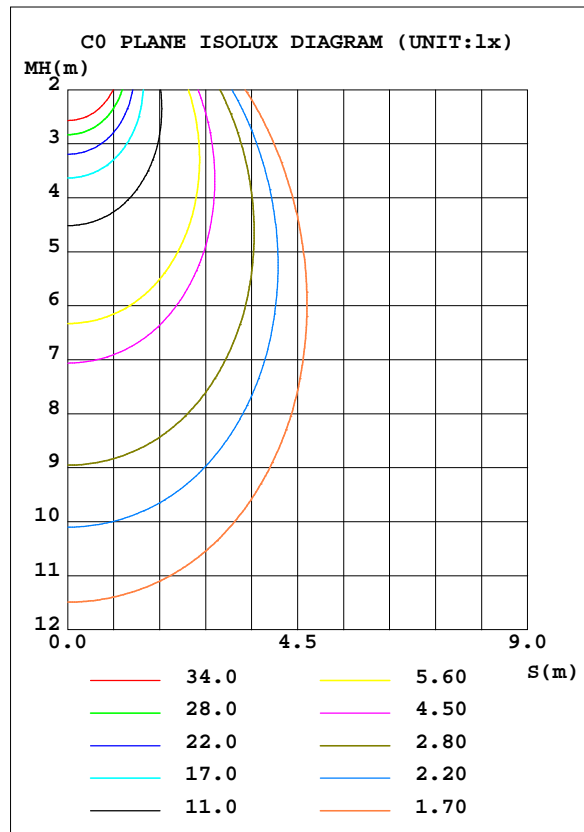
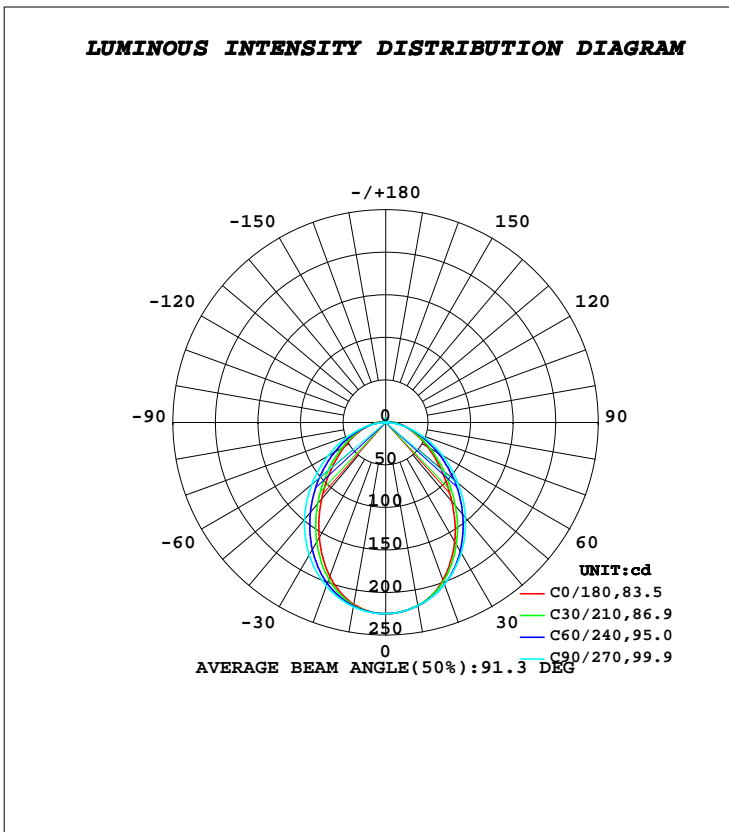




LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:24.000V I:0.3230A P:7.7000W PF:1.0000 Freq:0Hz Lamp Flux:533.395x1 lm		
NAME: 1010-073-935-24	TYPE:LED	
MFR.:		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 69.27 lm/W			
MODEL		I _{max} (cd)	224.8	S/MH(C0/180)	1.07
NOMINAL POWER(W)	7.7	LOR(%)	100.0	S/MH(C90/270)	1.20
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	533.39	η UP, DN(C0-180)	1.7, 48.3
NOMINAL FLUX(lm)	533.395	CIE CLASS	DIRECT	η UP, DN(C180-360)	1.8, 48.2
LAMPS INSIDE	1	η up(%)	3.5	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	24	η down(%)	96.5	CIBSE SHR MAX	1.25



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2019-05-30

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:

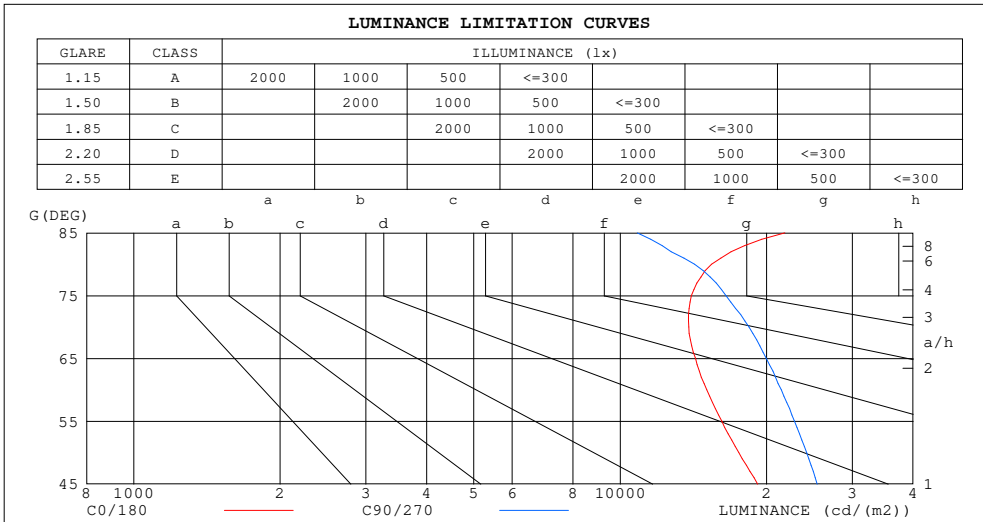
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	217.0	218.5	219.9	219.3	218.5	218.5	218.7	217.6	0- 10	21.16	21.16	3.97,3.97
20	192.4	198.6	204.5	201.8	197.2	200.5	202.4	197.0	10- 20	59.25	80.41	15.1,15.1
30	156.4	167.4	179.9	171.9	162.3	170.6	177.4	165.5	20- 30	85.11	165.5	31,31
40	117.4	131.1	148.5	135.1	120.9	134.0	145.9	129.2	30- 40	94.41	259.9	48.7,48.7
50	82.40	95.52	113.5	97.70	84.60	97.43	111.2	94.23	40- 50	88.22	348.1	65.3,65.3
60	55.07	64.25	78.24	65.36	56.49	65.24	76.54	63.38	50- 60	71.95	420.1	78.8,78.8
70	34.62	38.58	45.92	39.20	35.58	39.39	45.07	38.34	60- 70	51.30	471.4	88.4,88.4
80	19.57	18.75	18.03	19.09	20.33	19.37	17.50	18.91	70- 80	30.24	501.6	94,94
90	9.373	6.567	1.208	6.871	10.01	7.066	1.474	6.838	80- 90	12.92	514.6	96.5,96.5
100	3.514	2.085	1.435	2.351	4.205	2.503	1.684	2.284	90-100	4.377	518.9	97.3,97.3
110	1.812	1.815	1.866	1.836	2.145	2.019	2.056	1.976	100-110	2.126	521.1	97.7,97.7
120	2.236	2.249	2.317	2.260	2.306	2.406	2.474	2.378	110-120	2.097	523.1	98.1,98.1
130	2.760	2.736	2.806	2.782	2.747	2.860	2.901	2.801	120-130	2.292	525.4	98.5,98.5
140	3.276	3.220	3.284	3.292	3.197	3.310	3.318	3.219	130-140	2.343	527.8	98.9,98.9
150	3.733	3.659	3.732	3.751	3.630	3.728	3.728	3.624	140-150	2.182	530.0	99.4,99.4
160	4.128	4.069	4.139	4.147	4.036	4.098	4.109	4.008	150-160	1.798	531.8	99.7,99.7
170	4.434	4.410	4.469	4.455	4.358	4.403	4.432	4.354	160-170	1.202	533.0	99.9,99.9
180	4.555	4.574	4.625	4.580	4.557	4.574	4.622	4.579	170-180	0.4278	533.4	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:2019-05-30

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:0.3230A P:7.7000W PF:1.0000 Freq:0Hz Lamp Flux:533.395x1 lm		
NAME: 1010-073-935-24	TYPE:LED	
MFR.:		



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	21808	10838
80	15409	14229
75	14009	16508
70	13845	18393
65	14281	19960
60	15063	21439
55	16176	22834
50	17531	24186
45	19169	25427

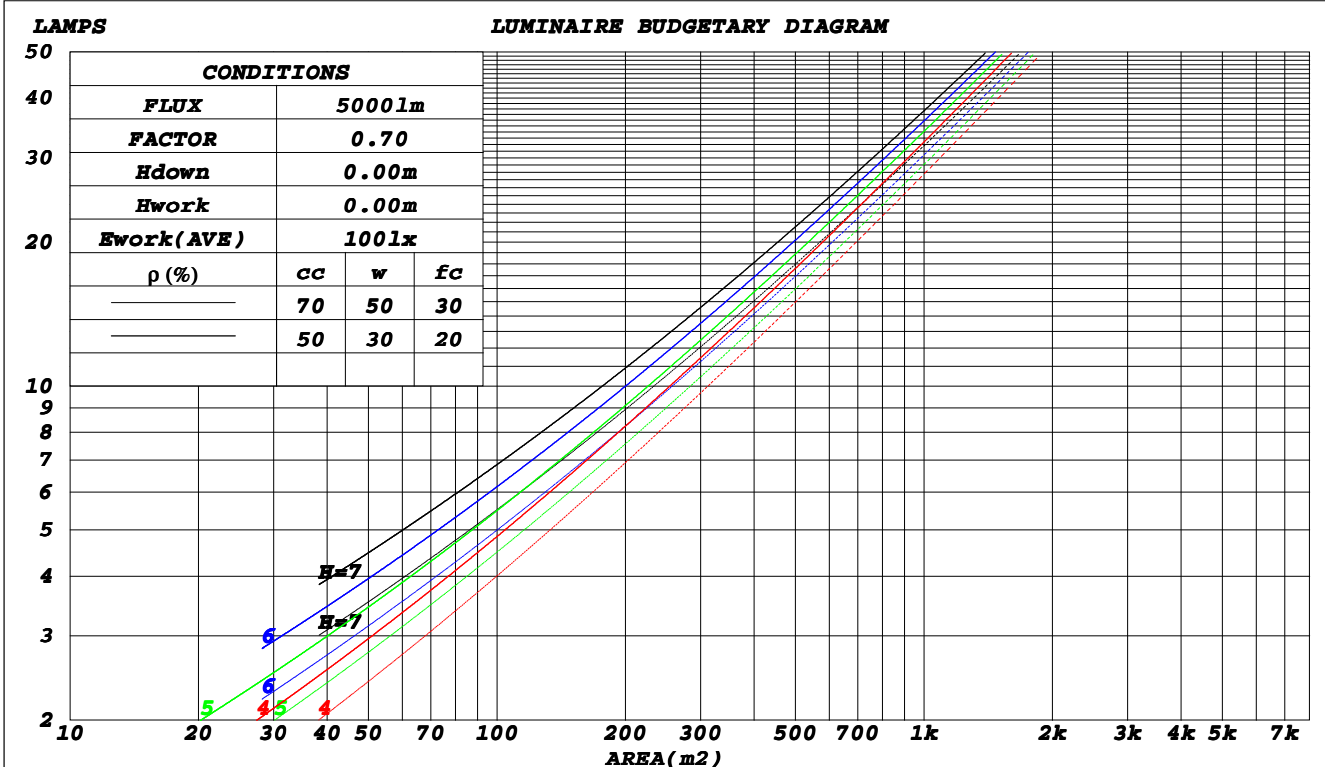
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2019-05-30

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:0.3230A P:7.7000W PF:1.0000 Freq:0Hz Lamp Flux:533.395x1 lm		
NAME: 1010-073-935-24	TYPE:LED	
MFR.:		

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	1.09	1.09	1.09	1.04	1.04	1.04	.99	.99	.99	.96
1.0	1.04	.00	.96	1.01	.97	.94	.96	.93	.90	.92	.89	.87	.88	.86	.84	.81
2.0	.91	.85	.79	.89	.83	.78	.85	.80	.76	.81	.77	.73	.78	.74	.71	.69
3.0	.81	.73	.67	.79	.72	.66	.75	.69	.64	.72	.67	.63	.69	.65	.61	.59
4.0	.72	.64	.57	.70	.63	.57	.68	.61	.55	.65	.59	.54	.62	.57	.53	.51
5.0	.65	.56	.50	.63	.55	.49	.61	.54	.49	.59	.53	.48	.56	.51	.47	.45
6.0	.59	.50	.44	.58	.49	.44	.55	.48	.43	.53	.47	.42	.52	.46	.42	.40
7.0	.53	.45	.39	.52	.44	.39	.51	.44	.38	.49	.43	.38	.47	.42	.37	.35
8.0	.49	.41	.35	.48	.40	.35	.47	.40	.35	.45	.39	.34	.44	.38	.34	.32
9.0	.45	.37	.32	.44	.37	.32	.43	.36	.31	.42	.35	.31	.40	.35	.31	.29
10.0	.42	.34	.29	.41	.34	.29	.40	.33	.29	.39	.33	.28	.38	.32	.28	.26



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2019-05-30

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:0.3230A P:7.7000W PF:1.0000 Freq:0Hz Lamp Flux:533.395x1 lm		
NAME: 1010-073-935-24	TYPE:LED	
MFR.:		

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	.298	.169	.054	.290	.165	.052	.274	.157	.050	.261	.150	.048	.248	.144	.046	
2.0	.277	.152	.047	.270	.149	.046	.256	.143	.044	.244	.137	.043	.233	.132	.041	
3.0	.256	.136	.041	.250	.134	.040	.238	.129	.039	.227	.124	.038	.217	.120	.037	
4.0	.237	.123	.036	.231	.121	.036	.220	.117	.035	.211	.113	.034	.201	.109	.033	
5.0	.219	.112	.032	.214	.110	.032	.205	.107	.031	.196	.103	.031	.188	.100	.030	
6.0	.204	.102	.029	.199	.101	.029	.191	.098	.028	.183	.095	.028	.175	.092	.027	
7.0	.190	.094	.027	.186	.093	.026	.179	.090	.026	.171	.088	.026	.165	.086	.025	
8.0	.178	.087	.024	.174	.086	.024	.168	.084	.024	.161	.082	.024	.155	.080	.023	
9.0	.167	.081	.023	.164	.080	.022	.158	.078	.022	.152	.076	.022	.146	.074	.021	
10.0	.158	.076	.021	.155	.075	.021	.149	.073	.021	.144	.071	.020	.138	.070	.020	

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	.217	.217	.217	.186	.186	.186	.127	.127	.127	.073	.073	.073	.023	.023	.023	
2.0	.198	.159	.127	.169	.137	.110	.116	.095	.077	.067	.055	.045	.021	.018	.015	
3.0	.189	.142	.104	.162	.122	.090	.111	.085	.063	.064	.050	.037	.021	.016	.012	
4.0	.181	.128	.088	.156	.111	.076	.107	.077	.054	.062	.045	.032	.020	.015	.010	
5.0	.174	.118	.077	.149	.102	.067	.103	.071	.047	.060	.042	.028	.019	.014	.009	
6.0	.167	.109	.068	.143	.095	.059	.099	.066	.042	.057	.039	.025	.019	.013	.008	
7.0	.160	.103	.062	.138	.089	.054	.095	.062	.038	.055	.037	.023	.018	.012	.008	
8.0	.154	.097	.058	.132	.084	.050	.092	.059	.036	.053	.035	.021	.017	.011	.007	
9.0	.148	.092	.054	.127	.080	.047	.088	.056	.033	.051	.033	.020	.017	.011	.007	
10.0	.142	.088	.051	.123	.076	.045	.085	.053	.032	.050	.032	.019	.016	.010	.006	

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-05-30

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:0.3230A P:7.7000W PF:1.0000 Freq:0Hz Lamp Flux:533.395x1 lm		
NAME: 1010-073-935-24	TYPE:LED	
MFR.:		

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	21.8	23.2	22.1	23.4	23.7	23.2	24.6	23.5	24.9	25.1
3H	23.0	24.3	23.4	24.6	24.9	24.5	25.8	24.9	26.1	26.4
4H	23.6	24.9	24.0	25.2	25.5	25.1	26.3	25.4	26.6	26.9
6H	24.2	25.4	24.6	25.7	26.1	25.4	26.6	25.8	26.9	27.3
8H	24.5	25.6	24.9	26.0	26.3	25.5	26.7	25.9	27.0	27.4
12H	24.8	25.9	25.2	26.3	26.6	25.6	26.7	26.0	27.0	27.4
4H 2H	22.4	23.6	22.8	24.0	24.3	23.5	24.8	23.9	25.1	25.4
3H	23.9	24.9	24.3	25.3	25.7	25.1	26.2	25.5	26.5	26.9
4H	24.6	25.6	25.0	26.0	26.4	25.7	26.7	26.2	27.1	27.5
6H	25.3	26.2	25.8	26.6	27.1	26.3	27.1	26.7	27.5	28.0
8H	25.7	26.5	26.2	27.0	27.4	26.4	27.2	26.9	27.7	28.1
12H	26.1	26.9	26.6	27.3	27.8	26.5	27.3	27.0	27.7	28.2
8H 4H	24.9	25.7	25.4	26.2	26.6	25.9	26.7	26.4	27.2	27.6
6H	25.9	26.5	26.4	27.0	27.5	26.6	27.3	27.1	27.7	28.2
8H	26.4	27.0	26.9	27.5	28.0	26.8	27.4	27.4	27.9	28.4
12H	27.0	27.5	27.5	28.0	28.5	27.0	27.5	27.6	28.1	28.6
12H 4H	24.9	25.7	25.4	26.1	26.6	25.9	26.7	26.4	27.1	27.6
6H	26.0	26.5	26.5	27.0	27.6	26.7	27.2	27.2	27.7	28.3
8H	26.5	27.0	27.1	27.6	28.1	27.0	27.5	27.5	28.0	28.5
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.2				
1.5H	+ 0.1 / - 0.3					+ 0.2 / - 0.2				
2.0H	+ 0.1 / - 0.3					+ 0.4 / - 0.5				

CIE Pub.117, 533.4 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -2.2)

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-05-30

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:0.3230A P:7.7000W PF:1.0000 Freq:0Hz Lamp Flux:533.395x1 lm		
NAME: 1010-073-935-24	TYPE:LED	
MFR.:		

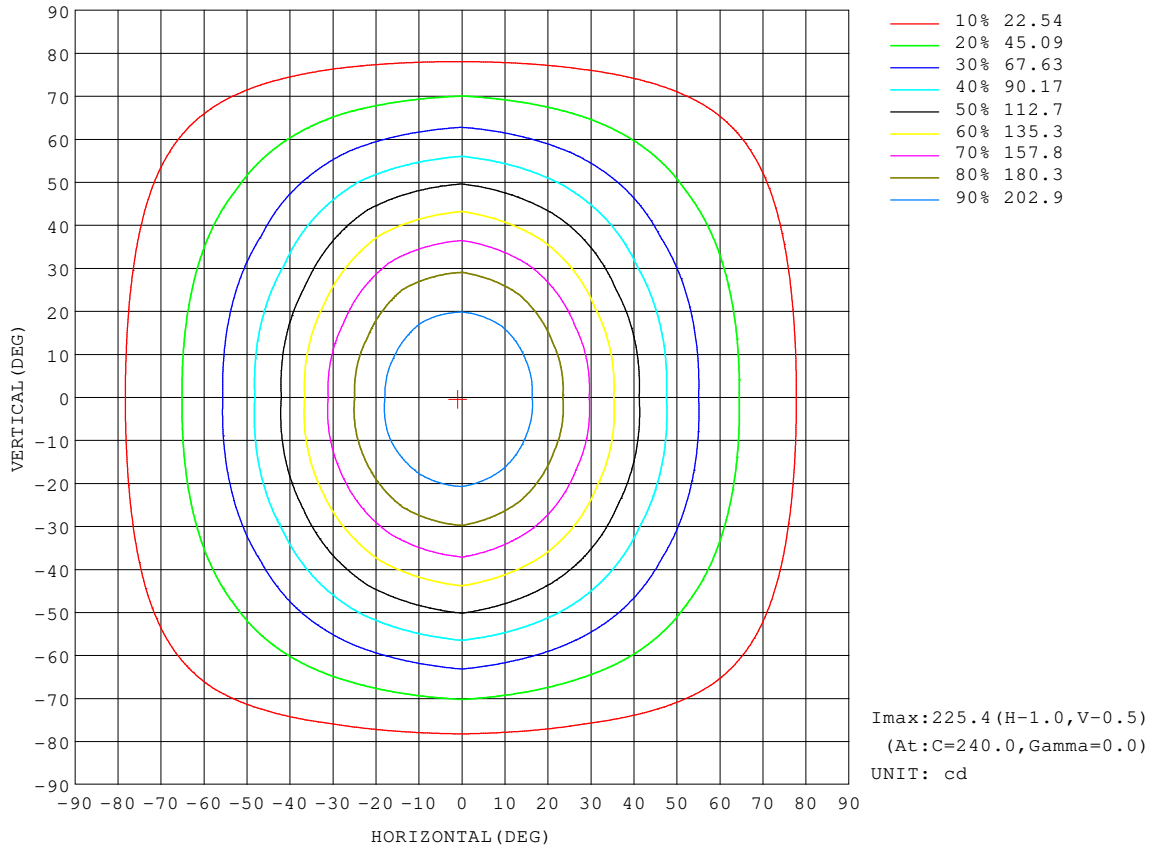
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	60	49	42	59	49	42	58	48	42	36
0.80	70	59	52	69	58	51	67	57	51	44
1.00	78	67	60	76	66	60	74	67	59	52
1.25	84	74	68	83	74	67	80	72	66	59
1.50	89	80	73	87	79	72	84	77	71	63
2.00	95	87	81	93	86	80	90	83	78	70
2.50	99	91	86	97	90	85	93	87	82	74
3.00	102	95	90	100	94	89	95	90	86	77
4.00	106	100	96	103	98	94	98	94	91	81
5.00	108	103	99	105	101	98	100	97	94	84
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:2019-05-30

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:0.3230A P:7.7000W PF:1.0000 Freq:0Hz Lamp Flux:533.395x1 lm		
NAME: 1010-073-935-24	TYPE:LED	
MFR.:		



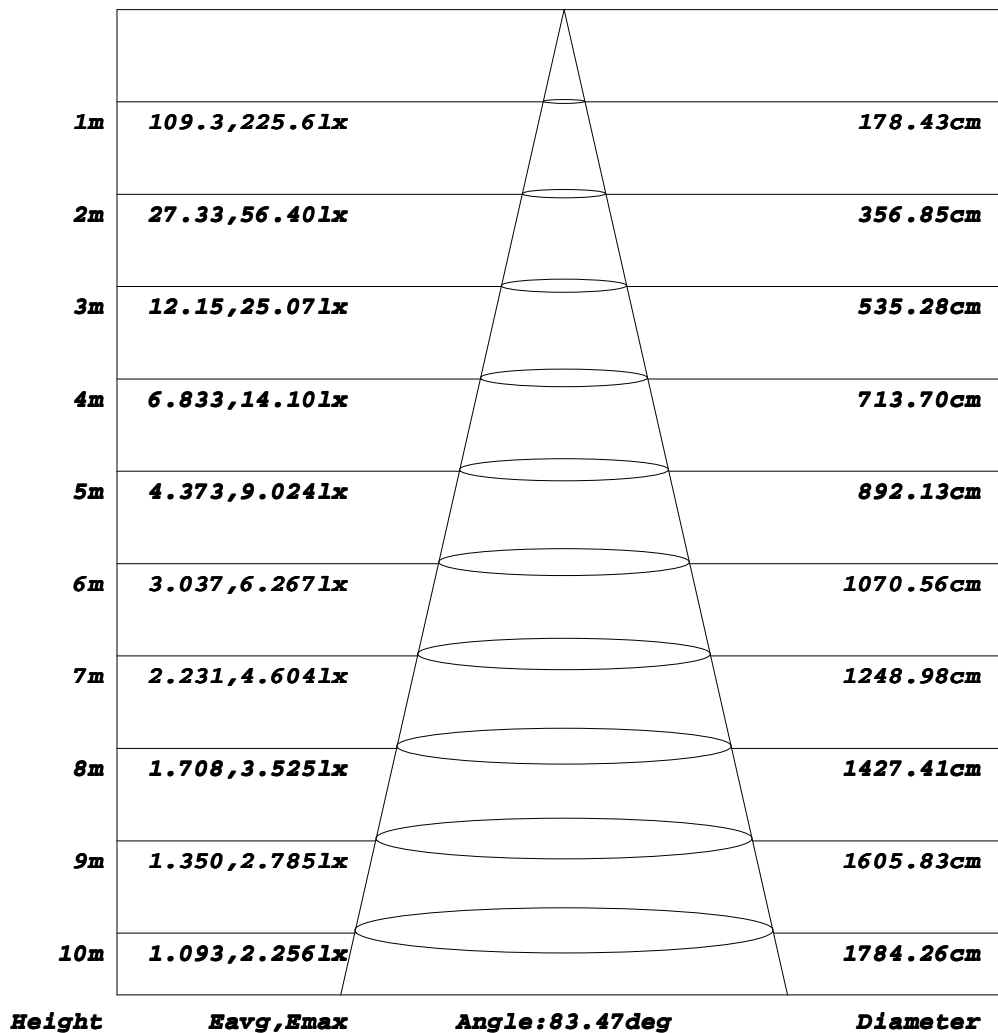
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2019-05-30

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:0.3230A P:7.7000W PF:1.0000 Freq:0Hz Lamp Flux:533.395x1 lm		
NAME: 1010-073-935-24	TYPE:LED	
MFR.:		

Flux out:278.5 lm



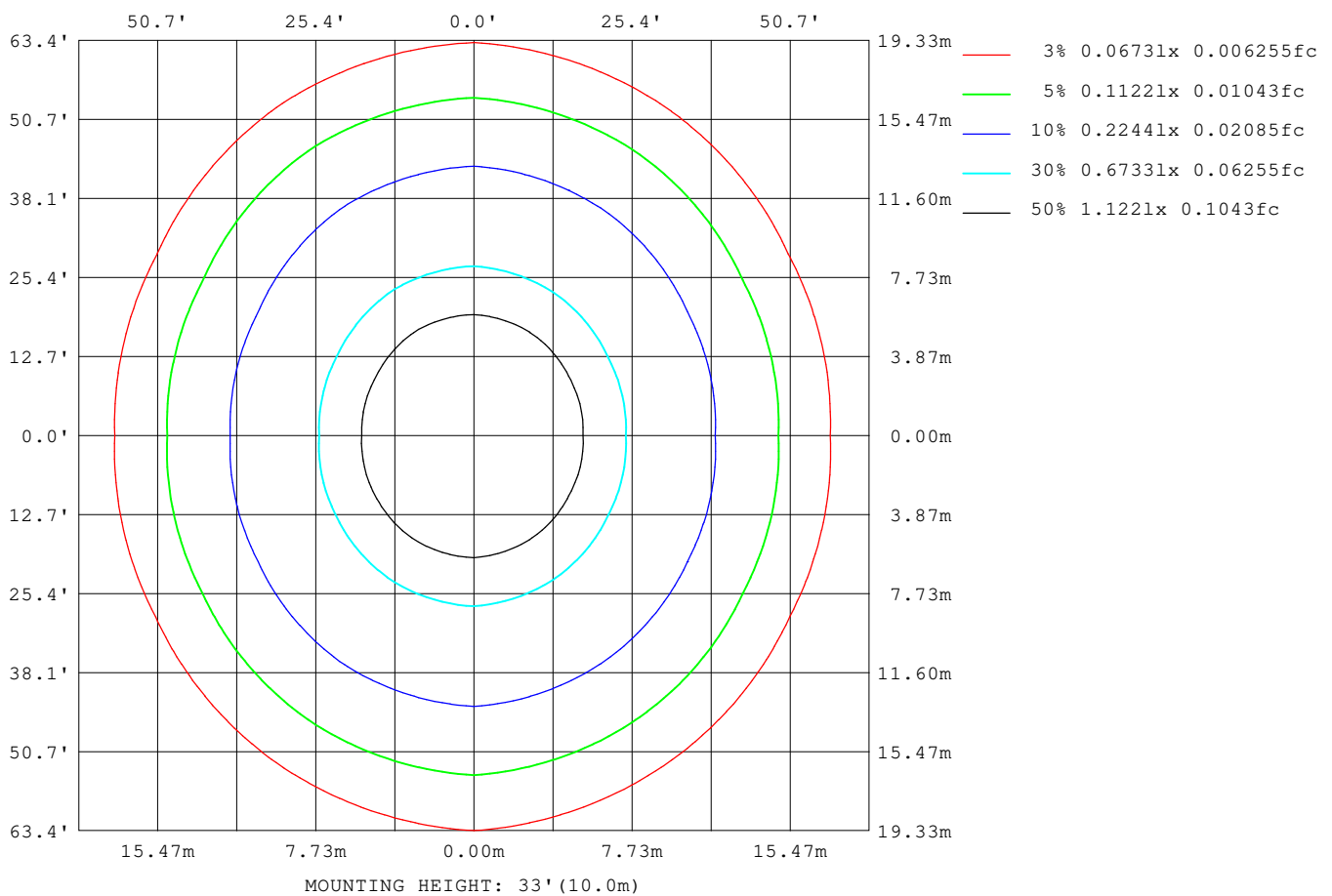
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2019-05-30

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

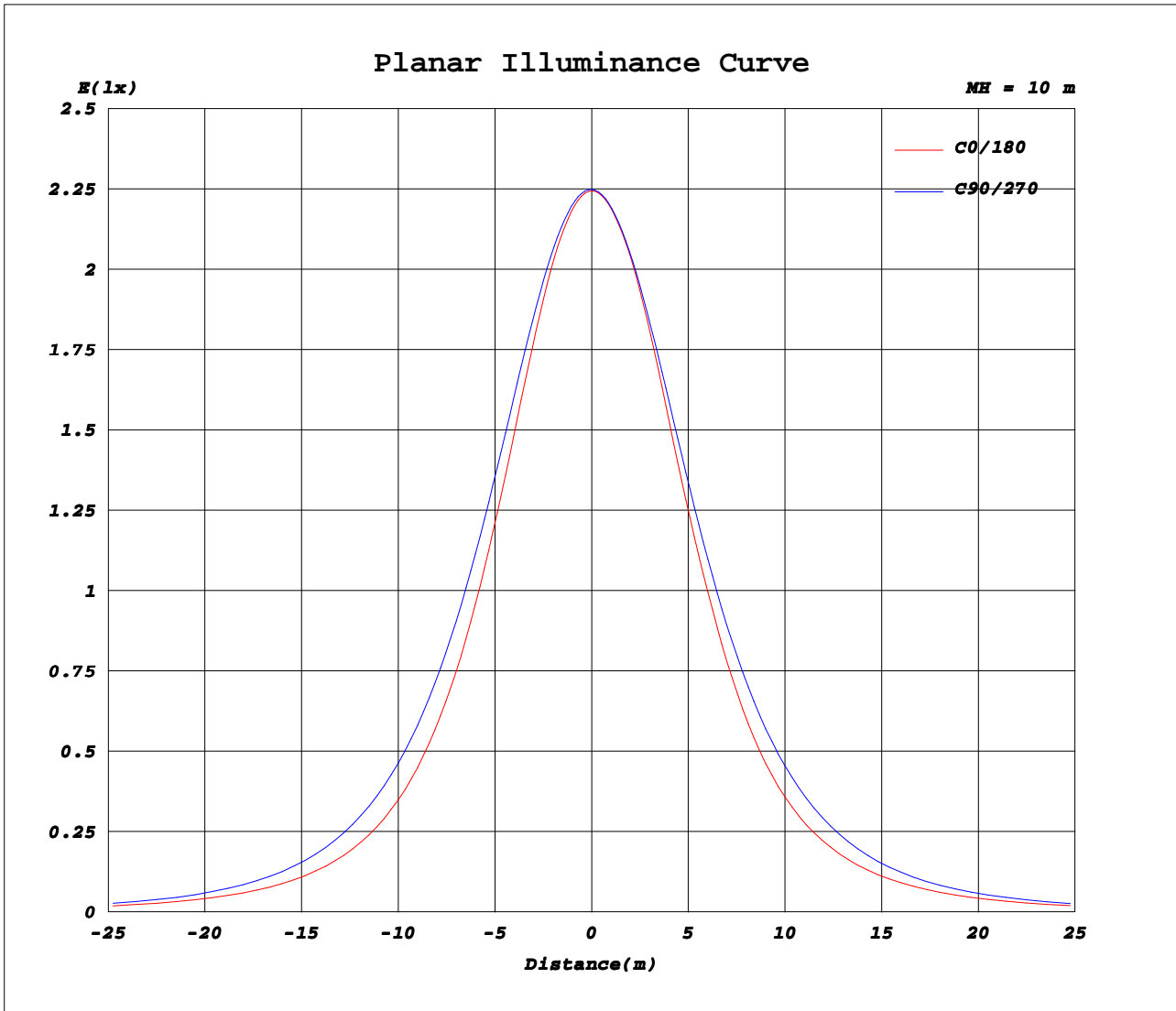
Test:U:24.000V I:0.3230A P:7.7000W PF:1.0000 Freq:0Hz Lamp Flux:533.395x1 lm		
NAME: 1010-073-935-24	TYPE:LED	
MFR.:		



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2019-05-30

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: 2019-05-30

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:0.3230A P:7.7000W PF:1.0000 Freq:0Hz Lamp Flux:533.395x1 lm		
NAME: 1010-073-935-24	TYPE:LED	
MFR.:		

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330							
0	225	225	225	225	225	225	225	225	225	225	225	225							
5	223	223	223	224	224	223	223	223	223	223	223	223							
10	217	218	219	220	219	219	218	218	219	219	218	217							
15	207	209	212	213	213	212	210	210	212	212	211	207							
20	192	196	201	204	203	200	197	199	202	202	200	194							
25	175	180	188	193	191	185	180	183	190	191	187	178							
30	156	162	173	180	176	167	162	166	175	177	171	160							
35	137	143	156	165	159	149	142	147	158	162	154	141							
40	117	124	138	149	142	129	121	127	141	146	136	122							
45	99.1	106	120	131	123	109	102	107	123	129	119	104							
50	82.4	88.8	102	113	105	90.5	84.6	89.6	105	111	101	87.1							
55	67.8	73.1	85.2	95.6	87.1	74.3	69.4	73.6	87.2	93.6	84.2	71.8							
60	55.1	59.3	69.2	78.2	70.4	60.3	56.5	59.8	70.7	76.5	68.6	58.2							
65	44.1	47.2	54.3	61.6	55.2	48.0	45.3	47.7	55.6	60.5	54.0	46.5							
70	34.6	36.5	40.6	45.9	41.3	37.1	35.6	36.9	41.9	45.1	40.7	36.0							
75	26.5	27.4	28.3	31.2	28.8	27.8	27.3	27.6	29.5	30.5	28.6	27.0							
80	19.6	19.6	17.9	18.0	18.2	20.0	20.3	19.9	18.8	17.5	18.3	19.5							
85	13.9	13.2	9.96	6.89	10.2	13.6	14.5	13.6	10.7	6.92	10.4	13.2							
90	9.37	8.39	4.75	1.21	5.03	8.71	10.01	8.77	5.36	1.47	5.20	8.48							
95	5.93	4.92	2.12	1.25	2.39	5.33	6.58	5.40	2.64	1.53	2.48	5.06							
100	3.51	2.71	1.46	1.43	1.56	3.14	4.20	3.23	1.77	1.68	1.68	2.88							
105	2.07	1.72	1.63	1.64	1.61	2.02	2.64	2.16	1.84	1.86	1.83	1.90							
110	1.81	1.79	1.84	1.87	1.82	1.85	2.14	2.01	2.02	2.06	2.01	1.94							
115	2.00	2.01	2.05	2.09	2.05	1.99	2.12	2.16	2.23	2.26	2.20	2.14							
120	2.24	2.22	2.28	2.32	2.30	2.22	2.31	2.37	2.44	2.47	2.41	2.35							
125	2.49	2.46	2.51	2.56	2.55	2.48	2.52	2.59	2.67	2.69	2.62	2.56							
130	2.76	2.72	2.75	2.81	2.81	2.75	2.75	2.82	2.90	2.90	2.82	2.78							
135	3.02	2.98	2.99	3.05	3.07	3.02	2.97	3.06	3.12	3.11	3.03	3.00							
140	3.28	3.22	3.22	3.28	3.31	3.27	3.20	3.28	3.34	3.32	3.23	3.20							
145	3.52	3.44	3.44	3.51	3.54	3.52	3.41	3.50	3.55	3.53	3.43	3.41							
150	3.73	3.66	3.66	3.73	3.76	3.74	3.63	3.71	3.75	3.73	3.64	3.61							
155	3.94	3.86	3.87	3.94	3.96	3.94	3.84	3.90	3.94	3.92	3.84	3.80							
160	4.13	4.06	4.08	4.14	4.16	4.14	4.04	4.07	4.12	4.11	4.03	3.99							
165	4.31	4.24	4.27	4.32	4.33	4.30	4.21	4.24	4.29	4.29	4.22	4.17							
170	4.43	4.39	4.43	4.47	4.47	4.44	4.36	4.38	4.43	4.43	4.38	4.33							
175	4.51	4.49	4.53	4.57	4.56	4.52	4.48	4.49	4.54	4.54	4.52	4.46							
180	4.55	4.55	4.60	4.62	4.60	4.56	4.56	4.55	4.60	4.62	4.60	4.55							

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2019-05-30

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: