

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

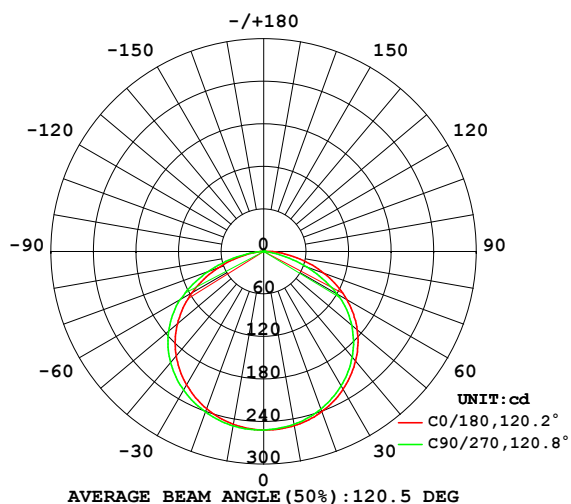
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LUMINAIRE PHOTOMETRIC TEST REPORT

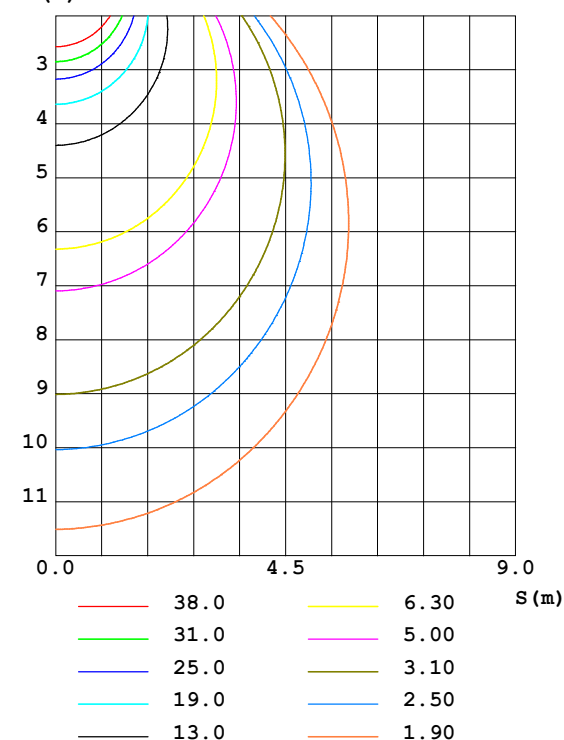
Test:U:24.00V I:0.7770A P:18.65W PF:1.000 Lamp Flux:779.772x1 lm		
NAME: 5050 LED Strip	TYPE:LED Strip-RGBW	WEIGHT:
DIM.: 12*2.1*1000	SPEC.:12*2.1*1000	SERIAL No.:
MFR.: BLUEVISON		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 41.82 lm/W			
MODEL:M60V24RGBW60K0IP20-12		Imax(cd)	251.9	S/MH(C0/180)	1.29
NOMINAL POWER(W)	18.64	LOR(%)	100.0	S/MH(C90/270)	1.34
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	779.77	η UP,DN(C0-180)	0.4,49.3
NOMINAL FLUX(lm)	779.772	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.5,49.8
LAMPS INSIDE	1	η up(%)	0.9	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)	24	η down(%)	99.1	CIBSE SHR MAX	1.50

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:28DEG
 Operators:KEVINLI
 Test Date:2016-08-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
 Humidity:65.0%
 Test Distance:8.400m [K=1.0000]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

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ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C90	C180	C270					γ	Φ zone	Φ total	%lum, lamp
10	247.5	249.8	249.5	247.5					0- 10	23.88	23.88	3.06,3.06
20	236.0	240.8	240.5	236.5					10- 20	69.04	92.91	11.9,11.9
30	217.4	226.0	224.4	218.8					20- 30	106.5	199.4	25.6,25.6
40	192.1	204.4	201.9	194.4					30- 40	131.9	331.3	42.5,42.5
50	158.8	175.0	172.4	162.1					40- 50	141.6	473.0	60.7,60.7
60	117.1	136.9	135.3	118.7					50- 60	132.4	605.4	77.6,77.6
70	68.70	83.65	91.10	65.39					60- 70	101.2	706.6	90.6,90.6
80	22.55	28.80	43.03	13.48					70- 80	54.25	760.9	97.6,97.6
90	0.7184	0.2768	7.862	0.2487					80- 90	12.16	773.0	99.1,99.1
100	0.4255	0.4423	0.8444	0.5030					90-100	1.120	774.1	99.3,99.3
110	0.6854	0.7020	0.5970	0.7628					100-110	0.6216	774.8	99.4,99.4
120	0.9615	0.9674	0.8349	1.039					110-120	0.8089	775.6	99.5,99.5
130	1.122	1.194	1.067	1.293					120-130	0.9438	776.5	99.6,99.6
140	1.299	1.377	1.283	1.404					130-140	0.9781	777.5	99.7,99.7
150	1.470	1.531	1.465	1.570					140-150	0.8987	778.4	99.8,99.8
160	1.664	1.636	1.620	1.664					150-160	0.7281	779.1	99.9,99.9
170	1.747	1.741	1.736	1.752					160-170	0.4771	779.6	100,100
180	1.813	1.780	1.808	1.769					170-180	0.1679	779.8	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
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 Operators:KEVINLI
 Test Date:2016-08-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
 Humidity:65.0%
 Test Distance:8.400m [K=1.0000]
 Remarks:

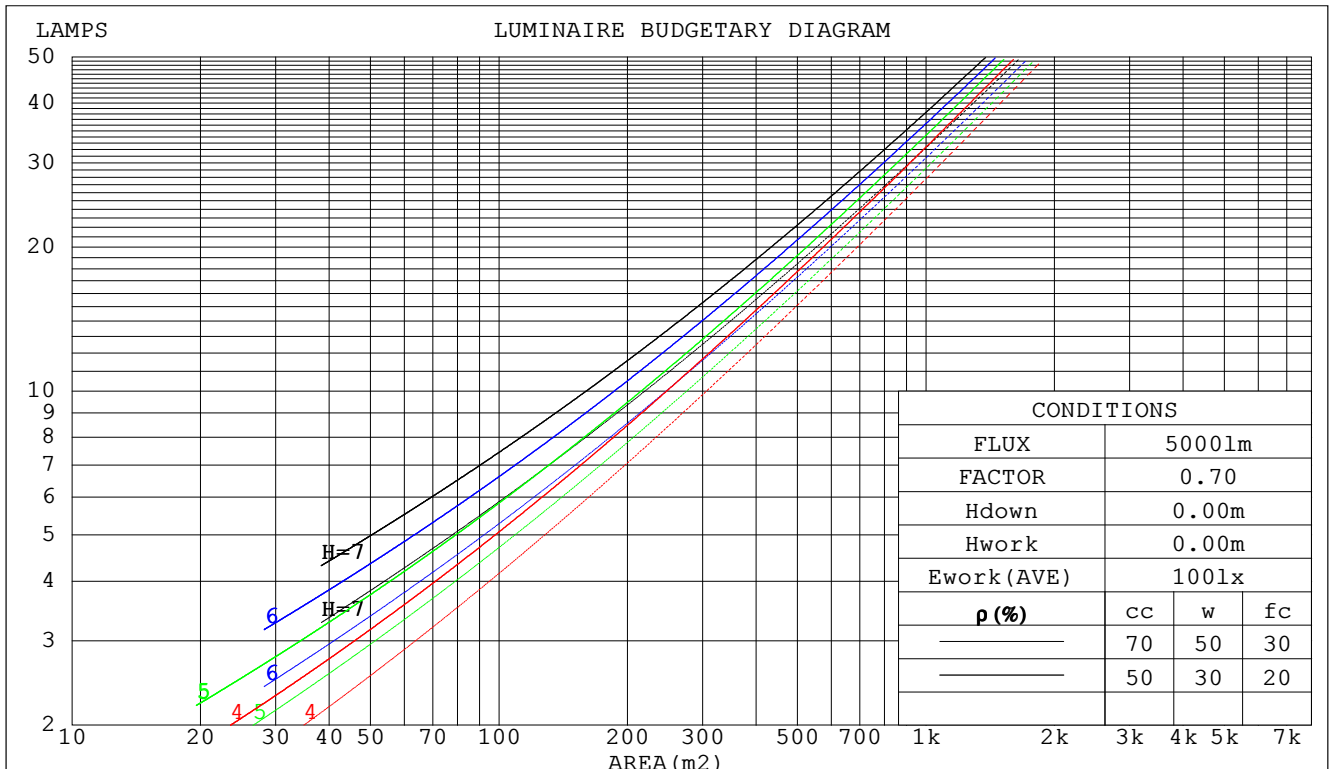
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CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:24.00V I:0.7770A P:18.65W PF:1.000 Lamp Flux:779.772x1 lm		
NAME: 5050 LED Strip	TYPE:LED Strip-RGBW	WEIGHT:
DIM.: 12*2.1*1000	SPEC.:12*2.1*1000	SERIAL No.:
MFR.: BLUEVISON		

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	1.01	1.01	1.01	.99
1.0	1.04	.99	.95	1.01	.97	.94	.97	.94	.91	.93	.90	.88	.89	.87	.85	.83
2.0	.90	.83	.77	.88	.82	.76	.84	.79	.74	.81	.76	.73	.78	.74	.71	.69
3.0	.79	.70	.64	.77	.69	.63	.74	.67	.62	.71	.65	.61	.68	.64	.60	.57
4.0	.70	.61	.54	.68	.60	.53	.66	.58	.53	.63	.57	.52	.61	.55	.51	.49
5.0	.62	.53	.46	.61	.52	.46	.59	.51	.45	.56	.50	.45	.54	.49	.44	.42
6.0	.56	.47	.40	.55	.46	.40	.53	.45	.39	.51	.44	.39	.49	.43	.38	.36
7.0	.50	.41	.35	.49	.41	.35	.48	.40	.35	.46	.39	.34	.45	.39	.34	.32
8.0	.46	.37	.31	.45	.37	.31	.44	.36	.31	.42	.36	.31	.41	.35	.30	.28
9.0	.42	.34	.28	.41	.33	.28	.40	.33	.28	.39	.32	.28	.38	.32	.27	.25
10.0	.39	.31	.25	.38	.30	.25	.37	.30	.25	.36	.30	.25	.35	.29	.25	.23



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:28DEG
 Operators:KEVINLI
 Test Date:2016-08-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
 Humidity:65.0%
 Test Distance:8.400m [K=1.0000]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

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WEC AND CCEC

Test:U:24.00V I:0.7770A P:18.65W PF:1.000 Lamp Flux:779.772x1 lm		
NAME: 5050 LED Strip	TYPE:LED Strip-RGBW	WEIGHT:
DIM.: 12*2.1*1000	SPEC.:12*2.1*1000	SERIAL No.:
MFR.: BLUEVISON		

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	.310	.176	.056	.303	.173	.055	.289	.166	.053	.276	.159	.051	.265	.153	.049		
2.0	.294	.161	.049	.287	.158	.049	.275	.153	.047	.264	.148	.046	.253	.143	.045		
3.0	.272	.145	.043	.267	.143	.043	.256	.139	.042	.246	.135	.041	.237	.131	.041		
4.0	.252	.131	.038	.247	.129	.038	.237	.126	.038	.228	.122	.037	.220	.119	.036		
5.0	.233	.119	.034	.228	.117	.034	.220	.114	.034	.212	.112	.033	.204	.109	.033		
6.0	.216	.108	.031	.212	.107	.031	.204	.105	.030	.197	.102	.030	.190	.100	.030		
7.0	.201	.099	.028	.197	.098	.028	.190	.096	.028	.184	.094	.027	.178	.092	.027		
8.0	.187	.092	.026	.184	.091	.026	.178	.089	.025	.172	.087	.025	.167	.086	.025		
9.0	.175	.085	.024	.173	.084	.024	.167	.083	.023	.162	.081	.023	.157	.080	.023		
10.0	.165	.079	.022	.162	.078	.022	.157	.077	.022	.153	.076	.022	.148	.075	.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	.197	.197	.197	.168	.168	.168	.115	.115	.115	.066	.066	.066	.021	.021	.021	
1.0	.187	.163	.141	.160	.140	.121	.109	.096	.084	.063	.056	.049	.020	.018	.016	
2.0	.179	.139	.104	.153	.119	.090	.105	.083	.063	.061	.048	.037	.019	.016	.012	
3.0	.172	.121	.081	.147	.104	.070	.101	.073	.049	.058	.042	.029	.019	.014	.009	
4.0	.164	.108	.065	.141	.093	.056	.097	.065	.040	.056	.038	.023	.018	.012	.008	
5.0	.157	.097	.054	.135	.084	.047	.093	.059	.033	.054	.035	.020	.017	.011	.006	
6.0	.150	.089	.046	.129	.077	.040	.089	.054	.028	.052	.032	.017	.017	.010	.006	
7.0	.143	.082	.040	.123	.071	.035	.085	.050	.025	.049	.029	.015	.016	.010	.005	
8.0	.136	.077	.035	.117	.066	.031	.081	.047	.022	.047	.027	.013	.015	.009	.004	
9.0	.130	.072	.032	.112	.062	.028	.078	.044	.020	.045	.026	.012	.015	.008	.004	
10.0	.125	.067	.029	.107	.058	.025	.075	.041	.018	.043	.024	.011	.014	.008	.004	

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
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γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity:65.0%
Test Distance:8.400m [K=1.0000]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

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Uncorrected UGR Table

Test:U:24.00V I:0.7770A P:18.65W PF:1.000 Lamp Flux:779.772x1 lm										
NAME: 5050 LED Strip					TYPE:LED Strip-RGBW			WEIGHT:		
DIM.: 12*2.1*1000					SPEC.:12*2.1*1000			SERIAL No.:		
MFR.: BLUEVISON										
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	23.4	24.9	23.7	25.1	25.3	23.9	25.4	24.2	25.6	25.9
3H	24.8	26.2	25.1	26.4	26.7	25.5	26.9	25.8	27.1	27.4
4H	25.2	26.6	25.6	26.9	27.1	26.0	27.4	26.4	27.6	27.9
6H	25.5	26.8	25.8	27.0	27.3	26.3	27.6	26.7	27.9	28.2
8H	25.5	26.8	25.9	27.1	27.4	26.4	27.6	26.8	27.9	28.2
12H	25.5	26.7	25.9	27.0	27.3	26.4	27.6	26.8	27.9	28.2
4H 2H	24.1	25.4	24.4	25.7	25.9	24.5	25.8	24.8	26.1	26.3
3H	25.6	26.8	26.0	27.1	27.4	26.2	27.4	26.6	27.7	28.0
4H	26.2	27.3	26.6	27.6	28.0	26.9	27.9	27.2	28.3	28.6
6H	26.5	27.5	26.9	27.8	28.2	27.3	28.2	27.7	28.6	29.0
8H	26.6	27.5	27.0	27.9	28.3	27.4	28.2	27.8	28.6	29.0
12H	26.6	27.4	27.1	27.8	28.3	27.4	28.2	27.8	28.6	29.0
8H 4H	26.4	27.3	26.9	27.7	28.1	27.0	27.9	27.5	28.3	28.7
6H	26.9	27.6	27.3	28.0	28.5	27.6	28.3	28.0	28.7	29.2
8H	27.0	27.7	27.5	28.1	28.6	27.7	28.3	28.2	28.8	29.3
12H	27.1	27.6	27.6	28.1	28.6	27.8	28.3	28.3	28.8	29.3
12H 4H	26.4	27.2	26.9	27.6	28.1	27.0	27.8	27.5	28.2	28.7
6H	26.9	27.6	27.4	28.0	28.5	27.6	28.2	28.0	28.7	29.1
8H	27.1	27.6	27.6	28.1	28.6	27.7	28.3	28.2	28.8	29.2
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.2					+ 0.1 / - 0.2				
1.5H	+ 0.2 / - 0.4					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.4					+ 0.2 / - 0.3				

CIE Pub.117 Corrected 779.8 lm Total Lamp Luminous Flux. (8log(F/F0) = -0.9)

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:28DEG
Operators:KEVINLI
Test Date:2016-08-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity:65.0%
Test Distance:8.400m [K=1.0000]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

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UTILIZATION FACTORS TABLE

Test:U:24.00V I:0.7770A P:18.65W PF:1.000 Lamp Flux:779.772x1 lm		
NAME: 5050 LED Strip	TYPE:LED Strip-RGBW	WEIGHT:
DIM.: 12*2.1*1000	SPEC.:12*2.1*1000	SERIAL No.:
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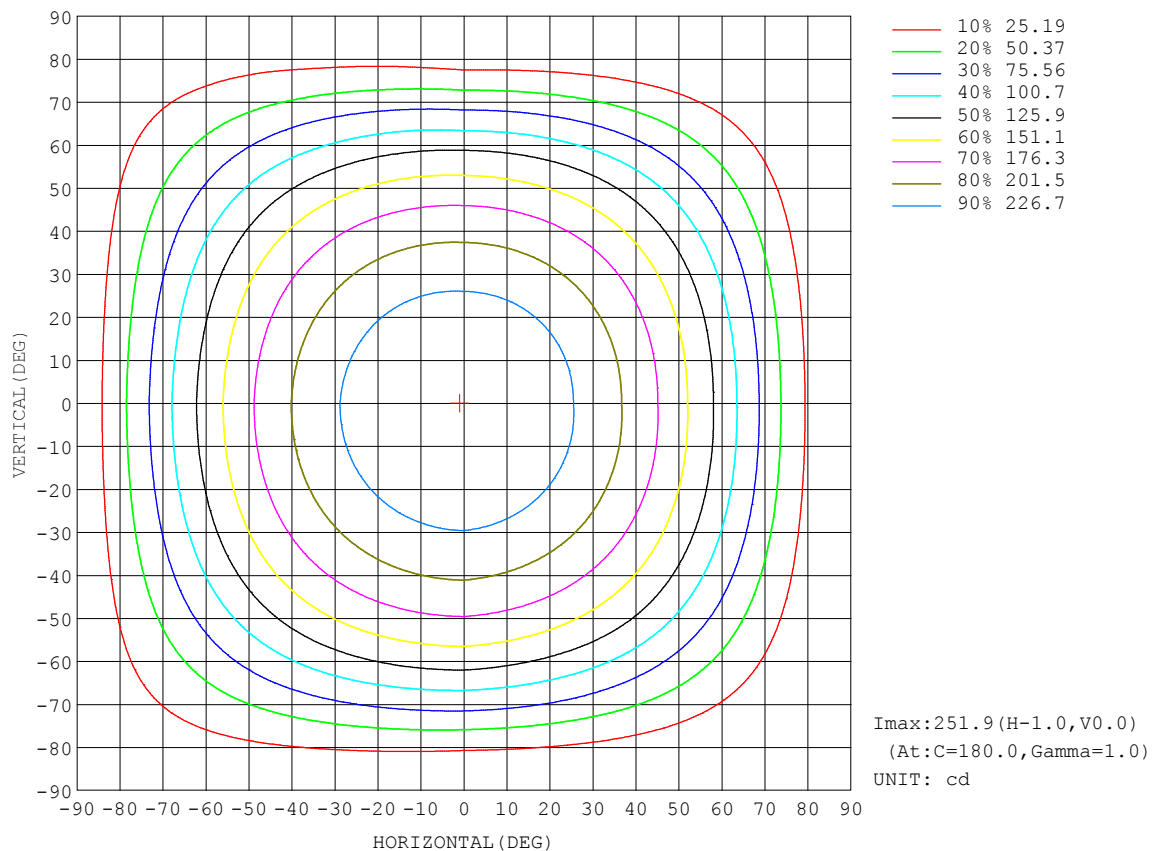
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	56	44	37	55	44	37	54	44	37	30
0.80	66	54	47	65	54	47	63	53	46	39
1.00	75	64	56	74	63	56	71	64	55	48
1.25	82	71	64	81	71	64	78	69	63	55
1.50	87	77	70	86	76	70	82	74	68	61
2.00	94	86	79	92	84	78	89	82	77	69
2.50	98	90	84	96	89	83	92	86	81	73
3.00	102	95	89	100	93	88	95	90	86	77
4.00	106	100	95	103	98	94	99	95	91	82
5.00	108	103	99	106	101	98	101	98	95	85
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

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 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
 Humidity:65.0%
 Test Distance:8.400m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

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DIM.: 12*2.1*1000	SPEC.:12*2.1*1000	SERIAL No.:
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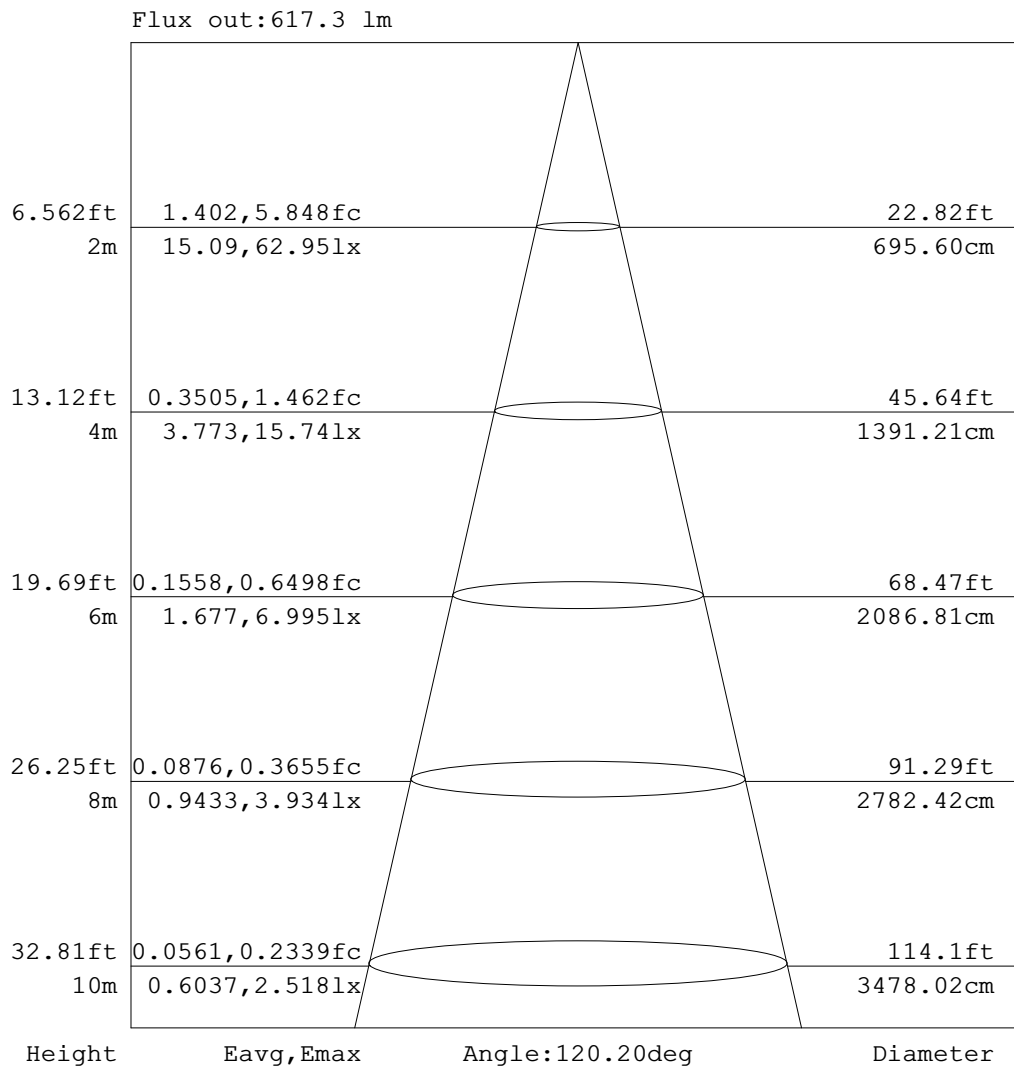


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AAI Figure

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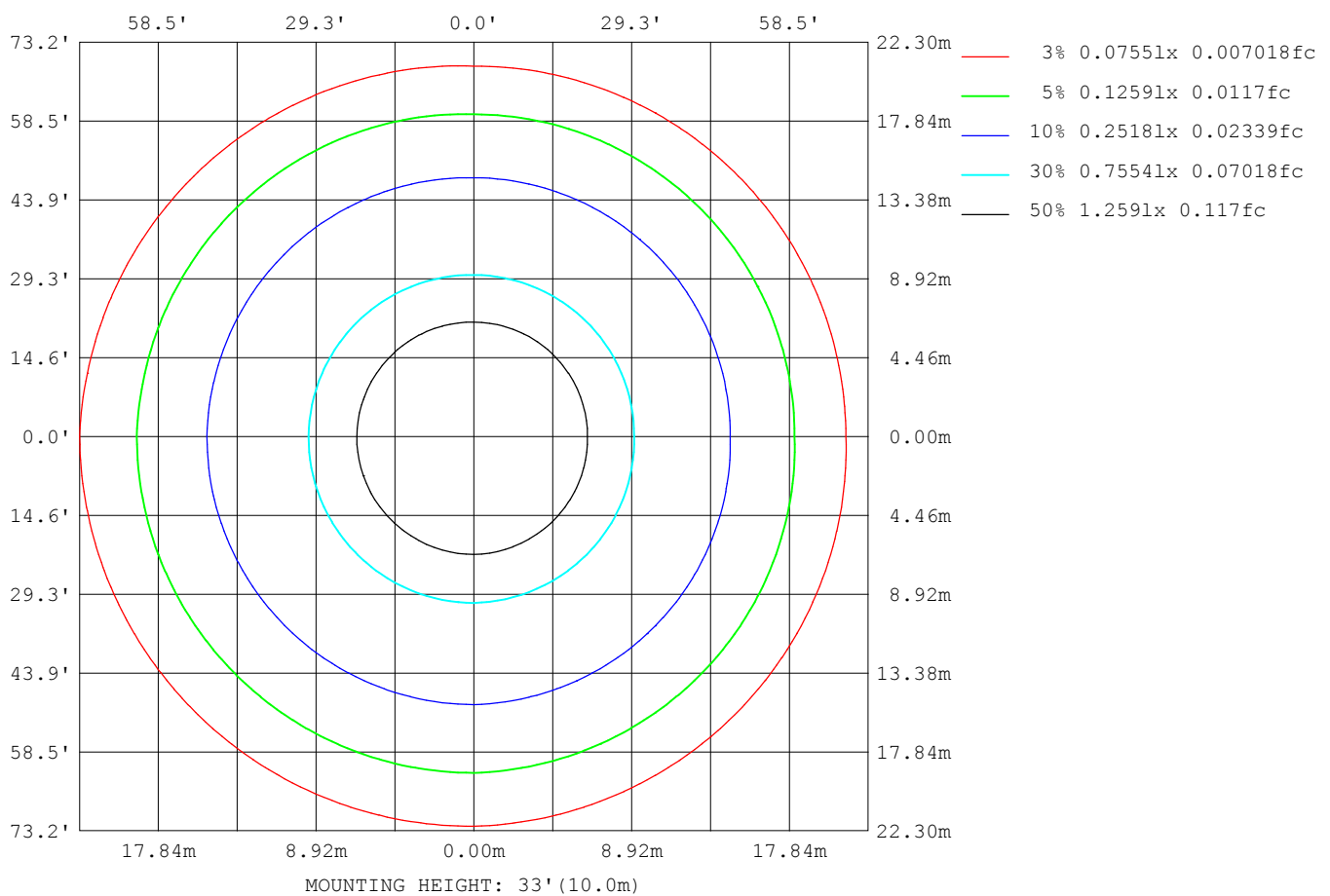
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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ISOLUX DIAGRAM

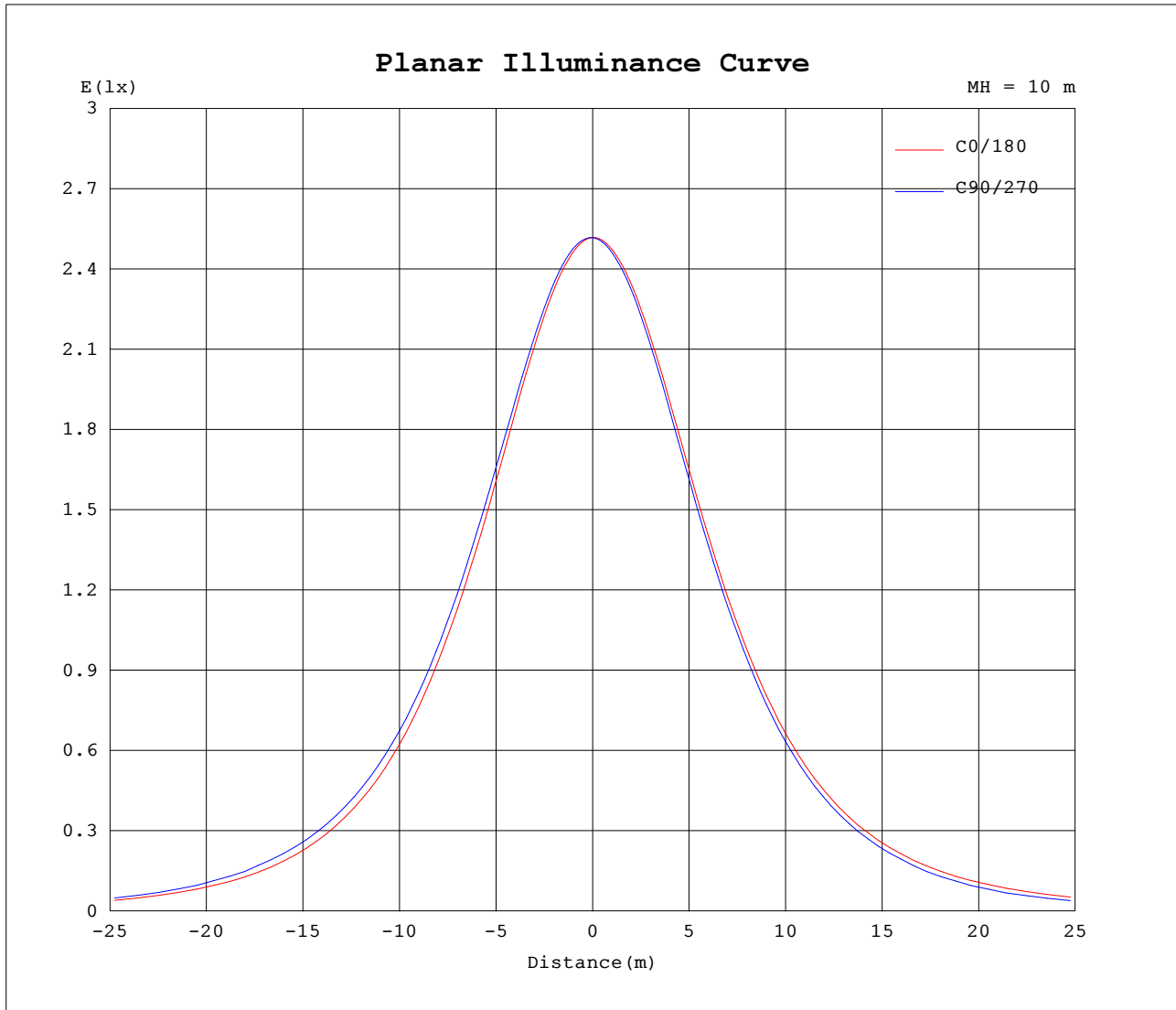
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Remarks:

Planar Illuminance Curve



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Operators: KEVINLI
Test Date: 2016-08-29

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LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:24.00V I:0.7770A P:18.65W PF:1.000 Lamp Flux:779.772x1 lm		
NAME: 5050 LED Strip	TYPE:LED Strip-RGBW	WEIGHT:
DIM.: 12*2.1*1000	SPEC.:12*2.1*1000	SERIAL No.:
MFR.: BLUEVISON		

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	90	180	270															
0	252	252	252	252															
5	250	252	251	250															
10	248	250	249	247															
15	243	246	246	243															
20	236	241	240	237															
25	228	234	233	228															
30	217	226	224	219															
35	206	216	214	207															
40	192	204	202	194															
45	177	191	188	179															
50	159	175	172	162															
55	139	157	155	143															
60	117	137	135	119															
65	93.4	111	114	90.7															
70	68.7	83.6	91.1	65.4															
75	44.2	55.7	66.9	37.4															
80	22.6	28.8	43.0	13.5															
85	6.93	7.77	22.2	0.69															
90	0.72	0.28	7.86	0.25															
95	0.34	0.32	2.35	0.35															
100	0.43	0.44	0.84	0.50															
105	0.60	0.57	0.50	0.69															
110	0.69	0.70	0.60	0.76															
115	0.77	0.83	0.72	0.97															
120	0.96	0.97	0.83	1.04															
125	1.04	1.07	0.96	1.14															
130	1.12	1.19	1.07	1.29															
135	1.22	1.29	1.18	1.36															
140	1.30	1.38	1.28	1.40															
145	1.40	1.46	1.38	1.48															
150	1.47	1.53	1.46	1.57															
155	1.57	1.59	1.54	1.62															
160	1.66	1.64	1.62	1.66															
165	1.66	1.69	1.69	1.66															
170	1.75	1.74	1.74	1.75															
175	1.76	1.76	1.79	1.76															
180	1.81	1.78	1.81	1.77															

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:28DEG
Operators:KEVINLI
Test Date:2016-08-29

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity:65.0%
Test Distance:8.400m [K=1.0000]
Remarks: