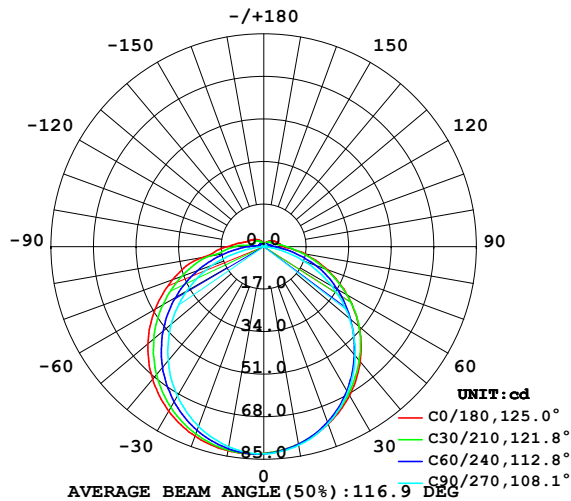


LUMINAIRE PHOTOMETRIC TEST REPORT

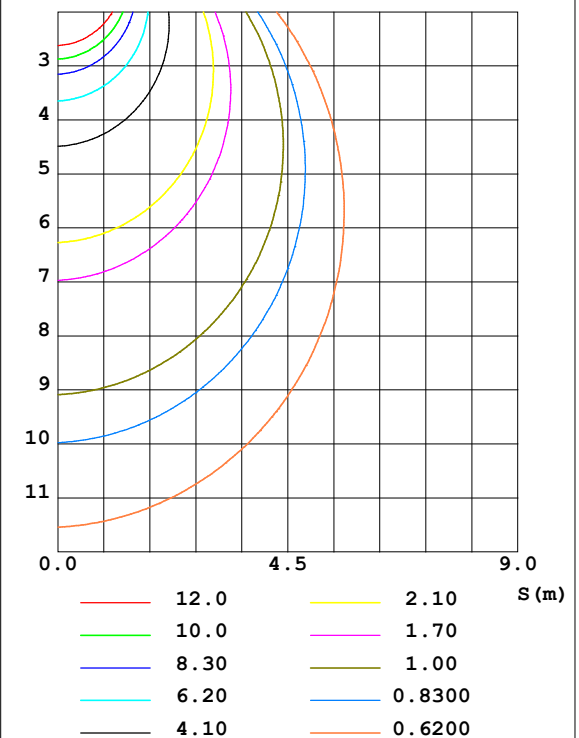
Test:U:24.00V I:0.1490A P:3.576W PF:1.000 Lamp Flux:275.927x1 lm		
NAME: LB-TW3050K	TYPE: LED Light Bar	WEIGHT:
SPEC: 3.5W	DIM.: 260*16.5*12.5 (MM)	SERIAL No.: 001
MFR.: Flexfire LEDs, Inc.	SUR.:0.247*0.02	PROTECTION ANGLE: 120

DATA OF LAMP		PHOTOMETRIC DATA Eff: 77.16 lm/W			
MODEL	LB-TW3050K-24V-10IN	I _{max} (cd)	82.99	S/MH(C0/180)	1.24
NOMINAL POWER(W)	3.5	LOR(%)	100.0	S/MH(C90/270)	1.21
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	275.93	η UP,DN(C0-180)	3.5,45.2
NOMINAL FLUX(lm)	275.927	CIE CLASS	DIRECT	η UP,DN(C180-360)	3.4,47.9
LAMPS INSIDE	1	η up(%)	6.9	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	0.0	η down(%)	93.1	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Test Date:2025-01-03

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.269
Humidity:65.0%
Test Distance:6.400m [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	80.12	80.12	80.59	81.77	82.79	82.24	81.17	80.73	0- 10	7.824	7.824	2.84,2.84
20	75.41	74.79	75.20	77.90	80.52	78.84	76.34	75.93	10- 20	22.40	30.22	11,11
30	68.66	67.20	67.17	71.67	75.98	72.94	69.01	68.84	20- 30	34.01	64.24	23.3,23.3
40	60.02	57.87	56.81	63.65	69.15	64.85	59.45	59.81	30- 40	41.33	105.6	38.3,38.3
50	49.70	47.52	44.82	54.29	60.44	54.97	48.26	49.13	40- 50	43.63	149.2	54.1,54.1
60	38.35	36.10	31.40	43.47	50.05	43.68	35.67	37.30	50- 60	40.80	190.0	68.9,68.9
70	27.09	24.24	17.23	31.48	38.79	31.55	22.01	24.94	60- 70	33.31	223.3	80.9,80.9
80	16.86	13.30	4.347	18.06	24.16	18.73	6.457	12.76	70- 80	22.44	245.7	89.1,89.1
90	8.283	6.745	0.6458	9.485	14.62	8.993	0.4108	5.896	80- 90	11.20	256.9	93.1,93.1
100	6.509	4.262	0.6795	5.426	9.175	3.648	0.4391	2.958	90-100	5.994	262.9	95.3,95.3
110	5.529	3.089	0.7337	3.786	6.560	3.160	0.5192	2.759	100-110	3.787	266.7	96.7,96.7
120	4.571	2.592	0.7828	3.335	5.234	3.050	0.6018	2.544	110-120	3.024	269.7	97.8,97.8
130	3.548	2.131	0.8371	2.848	4.605	2.675	0.6897	2.155	120-130	2.388	272.1	98.6,98.6
140	2.693	1.711	0.8861	2.263	3.600	2.159	0.7801	1.635	130-140	1.704	273.8	99.2,99.2
150	2.005	1.322	0.9326	1.628	2.668	1.659	0.8551	1.132	140-150	1.092	274.9	99.6,99.6
160	1.101	1.044	0.9869	1.181	1.782	1.240	0.9377	0.9558	150-160	0.6095	275.5	99.9,99.9
170	1.039	1.024	1.013	1.011	0.9858	0.9848	1.007	1.013	160-170	0.2959	275.8	100,100
180	1.026	1.018	1.041	1.053	1.023	1.017	1.044	1.050	170-180	0.0971	275.9	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

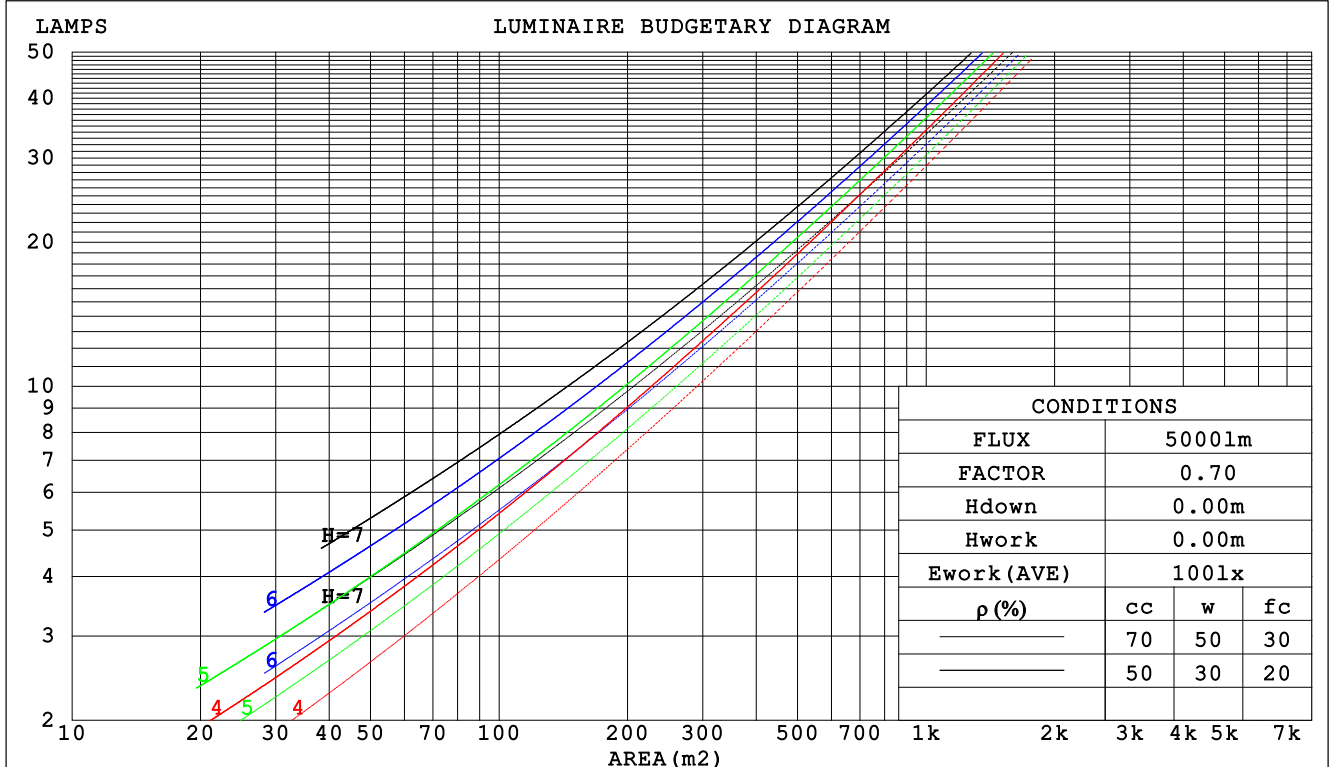
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Test Date:2025-01-03

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.269
Humidity:65.0%
Test Distance:6.400m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:24.00V I:0.1490A P:3.576W PF:1.000 Lamp Flux:275.927x1 lm		
NAME: LB-TW3050K	TYPE: LED Light Bar	WEIGHT:
SPEC: 3.5W	DIM.: 260*16.5*12.5 (MM)	SERIAL No.: 001
MFR.: Flexfire LEDs, Inc.	SUR.:0.247*0.02	PROTECTION ANGLE: 120

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															



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Test Date:2025-01-03

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.269
Humidity:65.0%
Test Distance:6.400m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:24.00V I:0.1490A P:3.576W PF:1.000 Lamp Flux:275.927x1 lm		
NAME: LB-TW3050K	TYPE: LED Light Bar	WEIGHT:
SPEC: 3.5W	DIM.: 260*16.5*12.5 (MM)	SERIAL No.: 001
MFR.: Flexfire LEDs, Inc.	SUR.:0.247*0.02	PROTECTION ANGLE: 120

pcc	80%			70%			50%			30%			10%			0	
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
pfc	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients (WEC)										
0.0																	
1.0	.340	.193	.061	.331	.189	.060	.314	.180	.057	.298	.172	.055	.283	.164	.053		
2.0	.309	.169	.052	.301	.166	.051	.285	.159	.049	.271	.152	.048	.258	.146	.046		
3.0	.281	.150	.045	.274	.147	.044	.260	.141	.043	.247	.135	.042	.235	.130	.040		
4.0	.257	.133	.039	.250	.131	.039	.238	.126	.038	.226	.121	.037	.215	.117	.036		
5.0	.236	.120	.035	.230	.118	.034	.218	.114	.033	.208	.110	.033	.198	.106	.032		
6.0	.217	.109	.031	.212	.107	.031	.202	.103	.030	.192	.100	.029	.184	.097	.029		
7.0	.201	.100	.028	.197	.098	.028	.188	.095	.027	.179	.092	.027	.171	.089	.026		
8.0	.188	.092	.026	.183	.090	.026	.175	.087	.025	.167	.085	.024	.160	.082	.024		
9.0	.175	.085	.024	.171	.084	.023	.164	.081	.023	.157	.079	.022	.150	.076	.022		
10.0	.165	.079	.022	.161	.078	.022	.154	.075	.021	.148	.073	.021	.141	.071	.020		

pcc	80%			70%			50%			30%			10%			0	
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
pfc	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)										
0.0	.243	.243	.243	.208	.208	.208	.142	.142	.142	.081	.081	.081	.026	.026	.026		
1.0	.235	.209	.185	.201	.179	.159	.138	.123	.110	.079	.071	.064	.025	.023	.021		
2.0	.228	.185	.149	.195	.159	.129	.134	.110	.090	.077	.064	.053	.025	.021	.017		
3.0	.220	.168	.126	.189	.145	.109	.130	.101	.077	.075	.059	.045	.024	.019	.015		
4.0	.212	.155	.111	.182	.134	.096	.125	.093	.068	.073	.055	.040	.023	.018	.013		
5.0	.205	.145	.100	.176	.125	.087	.121	.087	.062	.070	.051	.037	.023	.017	.012		
6.0	.198	.137	.093	.170	.118	.081	.117	.083	.057	.068	.049	.034	.022	.016	.011		
7.0	.191	.130	.087	.164	.112	.076	.113	.079	.054	.066	.046	.032	.021	.015	.011		
8.0	.184	.124	.083	.158	.108	.072	.110	.076	.051	.064	.045	.031	.021	.015	.010		
9.0	.178	.119	.079	.153	.103	.069	.106	.073	.049	.062	.043	.029	.020	.014	.010		
10.0	.172	.115	.077	.148	.100	.067	.103	.070	.048	.060	.042	.028	.019	.014	.009		

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Test Date:2025-01-03

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.269
Humidity:65.0%
Test Distance:6.400m [K=1.0000]
Remarks:

Uncorrected UGR Table

Test:U:24.00V I:0.1490A P:3.576W PF:1.000 Lamp Flux:275.927x1 lm										
NAME: LB-TW3050K					TYPE: LED Light Bar			WEIGHT:		
SPEC: 3.5W					DIM.: 260*16.5*12.5 (MM)			SERIAL No.: 001		
MFR.: Flexfire LEDs, Inc.					SUR.:0.247*0.02			PROTECTION ANGLE: 120		
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	21.9	23.3	22.2	23.7	24.0	21.0	22.5	21.4	22.8	23.2
3H	23.7	25.0	24.1	25.4	25.8	22.3	23.7	22.7	24.1	24.4
4H	24.6	25.8	25.0	26.2	26.6	22.8	24.0	23.2	24.4	24.8
6H	25.4	26.6	25.8	27.0	27.4	22.9	24.2	23.4	24.6	25.0
8H	25.8	27.0	26.3	27.4	27.9	22.9	24.1	23.4	24.5	25.0
12H	26.3	27.4	26.7	27.8	28.3	22.9	24.0	23.4	24.4	24.9
4H 2H	22.4	23.7	22.8	24.1	24.5	21.8	23.1	22.2	23.4	23.8
3H	24.5	25.6	24.9	26.0	26.5	23.3	24.4	23.8	24.9	25.3
4H	25.5	26.5	26.0	27.0	27.5	23.9	24.9	24.4	25.4	25.9
6H	26.5	27.5	27.0	27.9	28.5	24.2	25.1	24.7	25.6	26.1
8H	27.1	27.9	27.6	28.4	29.0	24.3	25.1	24.8	25.6	26.2
12H	27.6	28.4	28.1	28.9	29.4	24.3	25.1	24.8	25.6	26.1
8H 4H	25.8	26.6	26.3	27.1	27.7	24.4	25.2	24.9	25.7	26.3
6H	27.1	27.8	27.6	28.3	28.9	25.0	25.7	25.5	26.2	26.8
8H	27.8	28.4	28.3	29.0	29.6	25.1	25.8	25.7	26.3	26.9
12H	28.5	29.1	29.1	29.6	30.2	25.2	25.8	25.8	26.3	27.0
12H 4H	25.8	26.6	26.3	27.1	27.6	24.5	25.3	25.0	25.8	26.3
6H	27.1	27.8	27.7	28.3	28.9	25.2	25.8	25.7	26.4	27.0
8H	27.9	28.5	28.5	29.1	29.7	25.4	26.0	26.0	26.6	27.2
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	+ 0.1 / - 0.3					+ 0.2 / - 0.3				

CIE Pub.117 Corrected 275.9 lm Total Lamp Luminous Flux.(8log(F/F0) = -4.5)

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Test Date:2025-01-03

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.269
Humidity:65.0%
Test Distance:6.400m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:24.00V I:0.1490A P:3.576W PF:1.000 Lamp Flux:275.927x1 lm		
NAME: LB-TW3050K	TYPE: LED Light Bar	WEIGHT:
SPEC: 3.5W	DIM.: 260*16.5*12.5 (MM)	SERIAL No.: 001
MFR.: Flexfire LEDs, Inc.	SUR.:0.247*0.02	PROTECTION ANGLE: 120

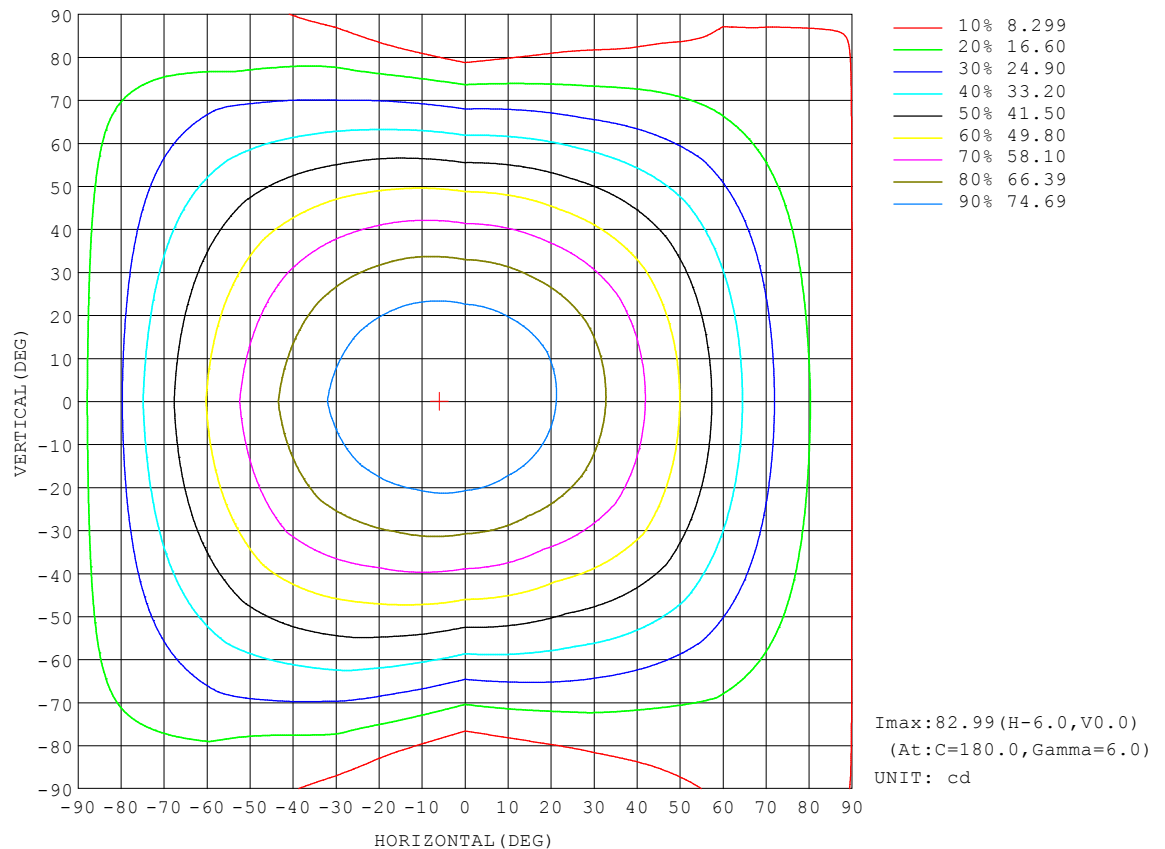
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	54	42	35	53	41	34	51	41	34	28
0.80	63	51	44	62	51	43	60	50	43	35
1.00	72	60	52	70	59	52	67	60	51	43
1.25	79	67	59	77	66	59	73	64	58	50
1.50	84	73	65	82	72	64	78	69	63	54
2.00	91	81	74	88	80	73	84	77	71	61
2.50	95	86	79	92	84	78	87	81	76	66
3.00	98	90	84	96	88	83	91	85	80	70
4.00	103	96	91	100	94	89	94	89	85	74
5.00	105	100	95	102	97	93	96	92	89	77
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
 Test Date: 2025-01-03

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.269
 Humidity: 65.0%
 Test Distance: 6.400m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:24.00V I:0.1490A P:3.576W PF:1.000 Lamp Flux:275.927x1 lm		
NAME: LB-TW3050K	TYPE: LED Light Bar	WEIGHT:
SPEC: 3.5W	DIM.: 260*16.5*12.5 (MM)	SERIAL No.: 001
MFR.: Flexfire LEDs, Inc.	SUR.:0.247*0.02	PROTECTION ANGLE: 120

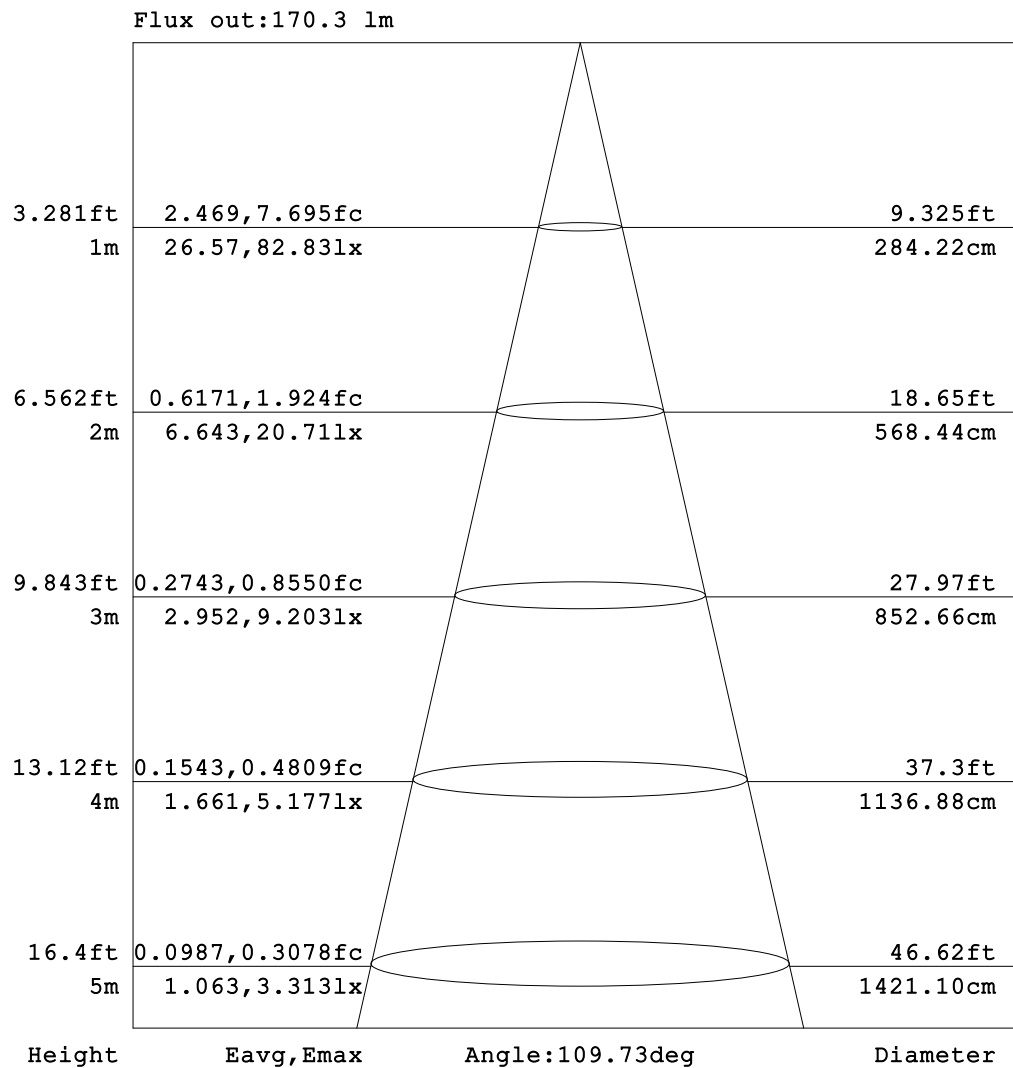


C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Test Date:2025-01-03

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.269
Humidity:65.0%
Test Distance:6.400m [K=1.0000]
Remarks:

AAI Figure

Test:U:24.00V I:0.1490A P:3.576W PF:1.000 Lamp Flux:275.927x1 lm		
NAME: LB-TW3050K	TYPE: LED Light Bar	WEIGHT:
SPEC: 3.5W	DIM.: 260*16.5*12.5 (MM)	SERIAL No.: 001
MFR.: Flexfire LEDs, Inc.	SUR.:0.247*0.02	PROTECTION ANGLE: 120



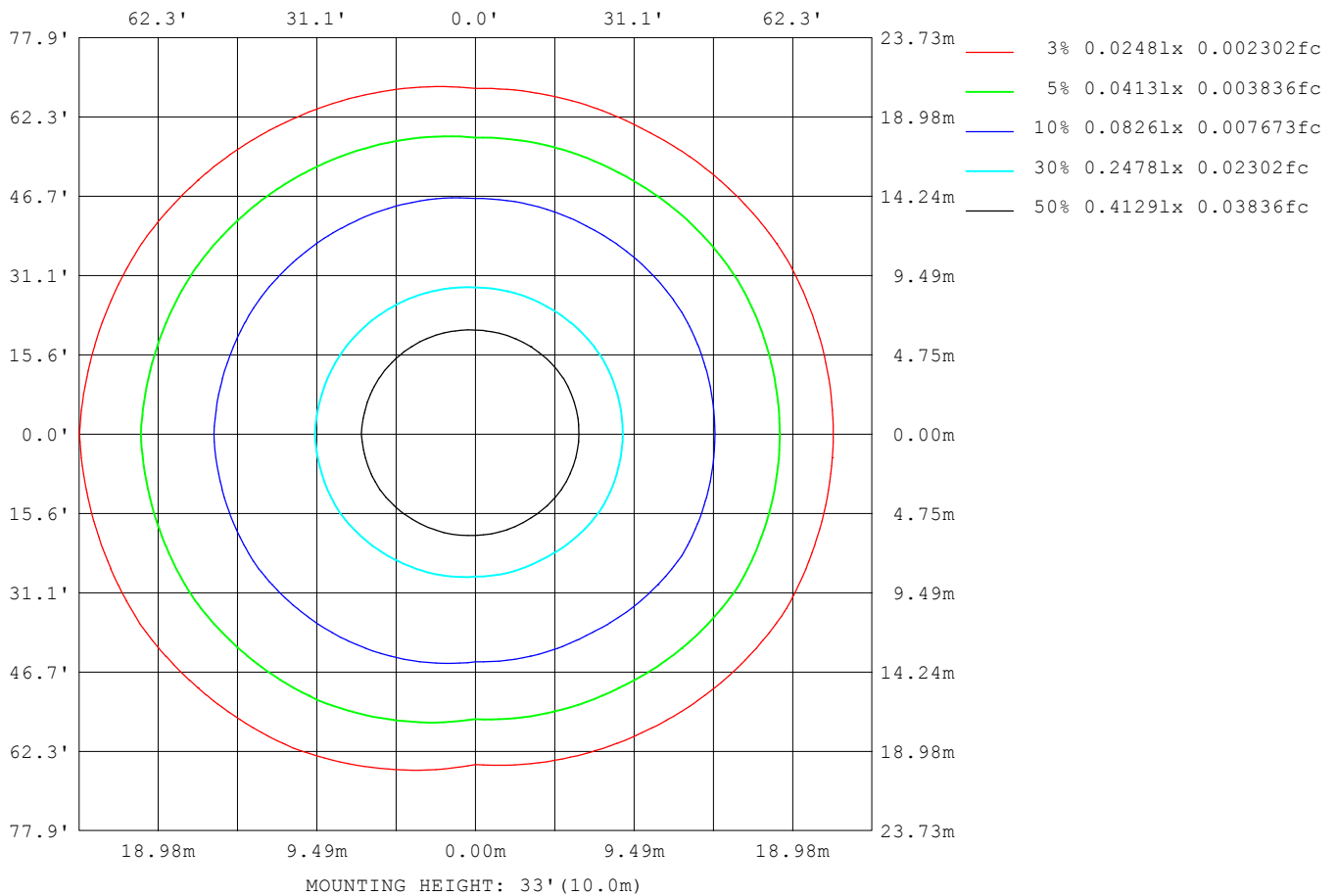
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Test Date: 2025-01-03

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.269
Humidity: 65.0%
Test Distance: 6.400m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

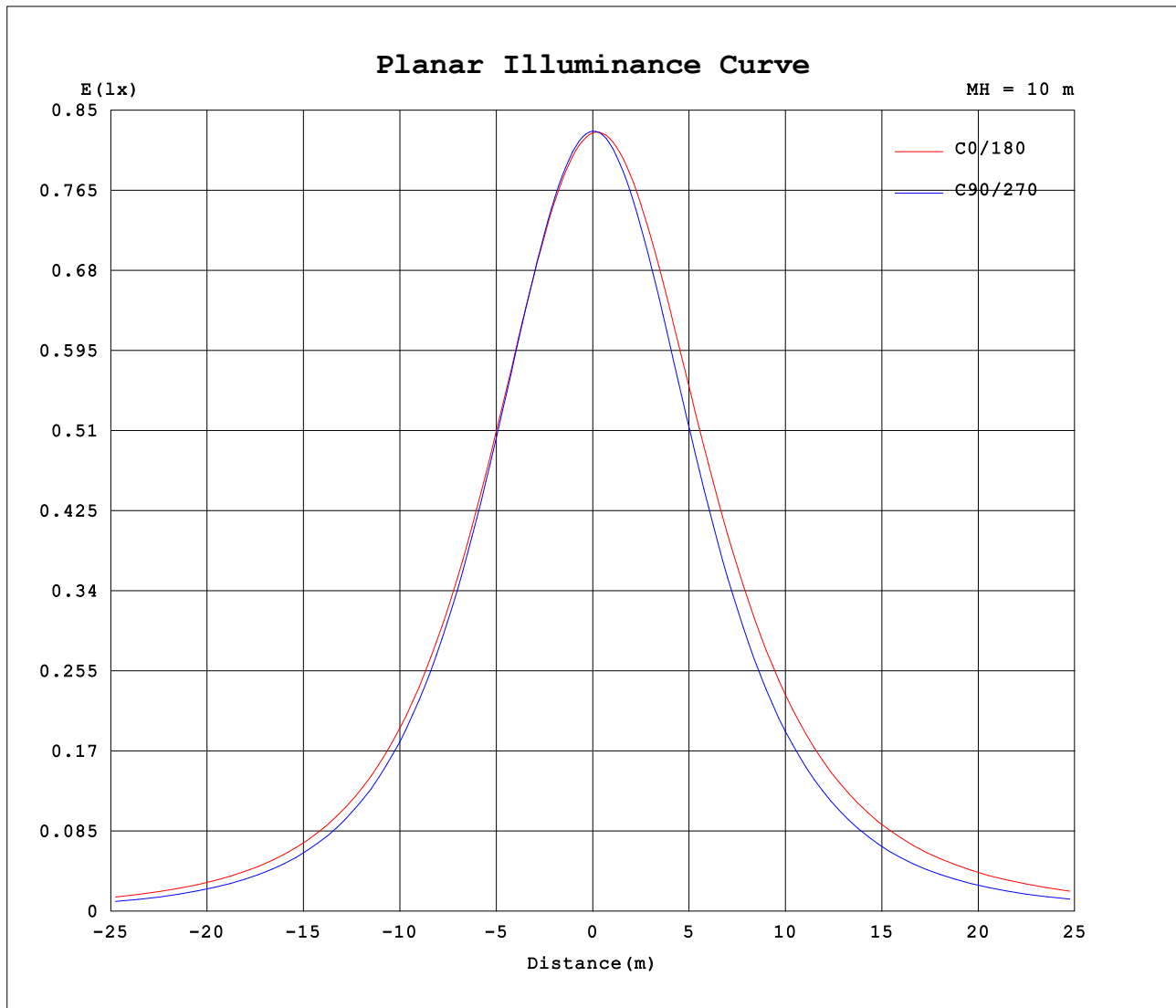
Test:U:24.00V I:0.1490A P:3.576W PF:1.000 Lamp Flux:275.927x1 lm		
NAME: LB-TW3050K	TYPE: LED Light Bar	WEIGHT:
SPEC: 3.5W	DIM.: 260*16.5*12.5 (MM)	SERIAL No.: 001
MFR.: Flexfire LEDs, Inc.	SUR.:0.247*0.02	PROTECTION ANGLE: 120



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Test Date:2025-01-03

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.269
 Humidity:65.0%
 Test Distance:6.400m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Test Date: 2025-01-03

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.269
 Humidity: 65.0%
 Test Distance: 6.400m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:24.00V I:0.1490A P:3.576W PF:1.000 Lamp Flux:275.927x1 lm		
NAME: LB-TW3050K	TYPE: LED Light Bar	WEIGHT:
SPEC: 3.5W	DIM.: 260*16.5*12.5 (MM)	SERIAL No.: 001
MFR.: Flexfire LEDs, Inc.	SUR.:0.247*0.02	PROTECTION ANGLE: 120

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330						
0	82.6	82.7	82.8	82.8	82.8	82.8	82.6	82.7	82.8	82.8	82.8	82.8						
5	81.7	81.7	81.9	82.1	82.5	82.8	83.0	83.0	82.8	82.5	82.2	82.0						
10	80.1	80.1	80.1	80.6	81.3	82.2	82.8	82.5	82.0	81.2	80.8	80.6						
15	78.0	77.8	77.7	78.3	79.5	80.9	82.0	81.4	80.4	79.1	78.7	78.6						
20	75.4	75.0	74.6	75.2	76.9	78.9	80.5	79.6	78.1	76.3	75.9	75.9						
25	72.3	71.7	70.9	71.5	73.6	76.5	78.5	77.2	75.2	72.9	72.6	72.7						
30	68.7	67.8	66.5	67.2	69.8	73.6	76.0	74.2	71.7	69.0	68.6	69.0						
35	64.6	63.7	61.7	62.2	65.5	70.1	72.8	70.7	67.6	64.5	64.2	64.9						
40	60.0	59.3	56.4	56.8	60.9	66.4	69.1	66.7	63.0	59.4	59.3	60.3						
45	55.0	54.6	50.9	50.9	55.9	62.3	65.0	62.2	58.0	54.0	54.0	55.3						
50	49.7	49.7	45.3	44.8	50.8	57.8	60.4	57.4	52.6	48.3	48.3	49.9						
55	44.1	44.3	39.5	38.3	45.5	52.6	55.4	52.2	46.8	42.1	42.4	44.3						
60	38.3	38.4	33.8	31.4	40.0	47.0	50.0	46.6	40.7	35.7	36.2	38.4						
65	32.7	32.3	28.2	24.3	34.2	41.2	44.5	40.9	34.5	28.9	29.8	32.4						
70	27.1	26.3	22.2	17.2	27.9	35.1	38.8	34.9	28.2	22.0	23.4	26.5						
75	21.7	20.7	16.2	10.4	21.5	29.1	33.1	29.0	21.8	14.3	17.1	21.0						
80	16.9	15.8	10.8	4.35	15.4	20.8	24.2	21.8	15.6	6.46	11.5	14.0						
85	11.3	11.9	6.70	0.64	10.3	16.2	18.9	15.4	10.3	0.99	6.11	10.6						
90	8.28	9.11	4.39	0.65	6.68	12.3	14.6	11.5	6.45	0.41	4.03	7.76						
95	6.79	7.34	3.41	0.65	4.72	9.54	11.6	6.80	4.39	0.41	3.45	5.31						
100	6.51	5.52	3.00	0.68	3.80	7.05	9.17	4.69	2.61	0.44	2.31	3.61						
105	6.02	4.58	2.49	0.71	3.14	5.58	7.56	4.67	1.97	0.48	1.75	3.29						
110	5.53	4.05	2.13	0.73	2.78	4.79	6.56	4.37	1.95	0.52	1.65	3.87						
115	5.07	3.79	1.88	0.76	2.51	4.42	6.06	3.89	2.03	0.56	1.69	3.70						
120	4.57	3.49	1.69	0.78	2.26	4.41	5.23	4.14	1.96	0.60	1.63	3.45						
125	4.05	3.15	1.57	0.81	2.12	4.09	5.07	3.88	1.88	0.65	1.57	3.15						
130	3.55	2.80	1.46	0.84	1.98	3.72	4.60	3.56	1.79	0.69	1.48	2.83						
135	3.08	2.52	1.29	0.86	1.76	3.33	4.11	3.22	1.60	0.73	1.23	2.53						
140	2.69	2.25	1.17	0.89	1.57	2.96	3.60	2.87	1.44	0.78	0.99	2.28						
145	2.34	1.99	0.96	0.91	1.45	2.60	3.11	2.54	1.35	0.82	0.90	1.78						
150	2.01	1.67	0.98	0.93	1.06	2.19	2.67	2.23	1.09	0.86	0.88	1.39						
155	1.63	1.28	0.99	0.96	0.96	1.87	2.25	1.83	0.92	0.90	0.92	1.08						
160	1.10	1.09	1.00	0.99	0.98	1.38	1.78	1.53	0.95	0.94	0.95	0.96						
165	1.08	1.06	1.01	1.00	1.00	1.02	1.05	0.97	0.97	0.97	0.98	0.99						
170	1.04	1.03	1.01	1.01	1.02	1.01	0.99	0.98	0.99	1.01	1.01	1.01						
175	1.03	1.02	1.02	1.03	1.04	1.03	0.99	0.99	1.00	1.03	1.04	1.03						
180	1.03	1.01	1.02	1.04	1.06	1.05	1.02	1.01	1.02	1.04	1.06	1.04						

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Test Date:2025-01-03

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.269
Humidity:65.0%
Test Distance:6.400m [K=1.0000]
Remarks: