

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P309399

Luminaire Tested: **24FCZ2-40-UNV-L82765-HRP-CP187-W2A-U-5700K**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

**Test Information**

Test Method: LM-79-08  
Report Number: P309399  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24FCZ2-40-UNV-L82765-HRP-CP187-W2A-U-5700K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"  
POLYCARB SHEET  
Light Source: (168) 5700K TUNABLE CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: 

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2739.0 lumens  
Efficiency: N/A  
Efficacy: 81.5 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

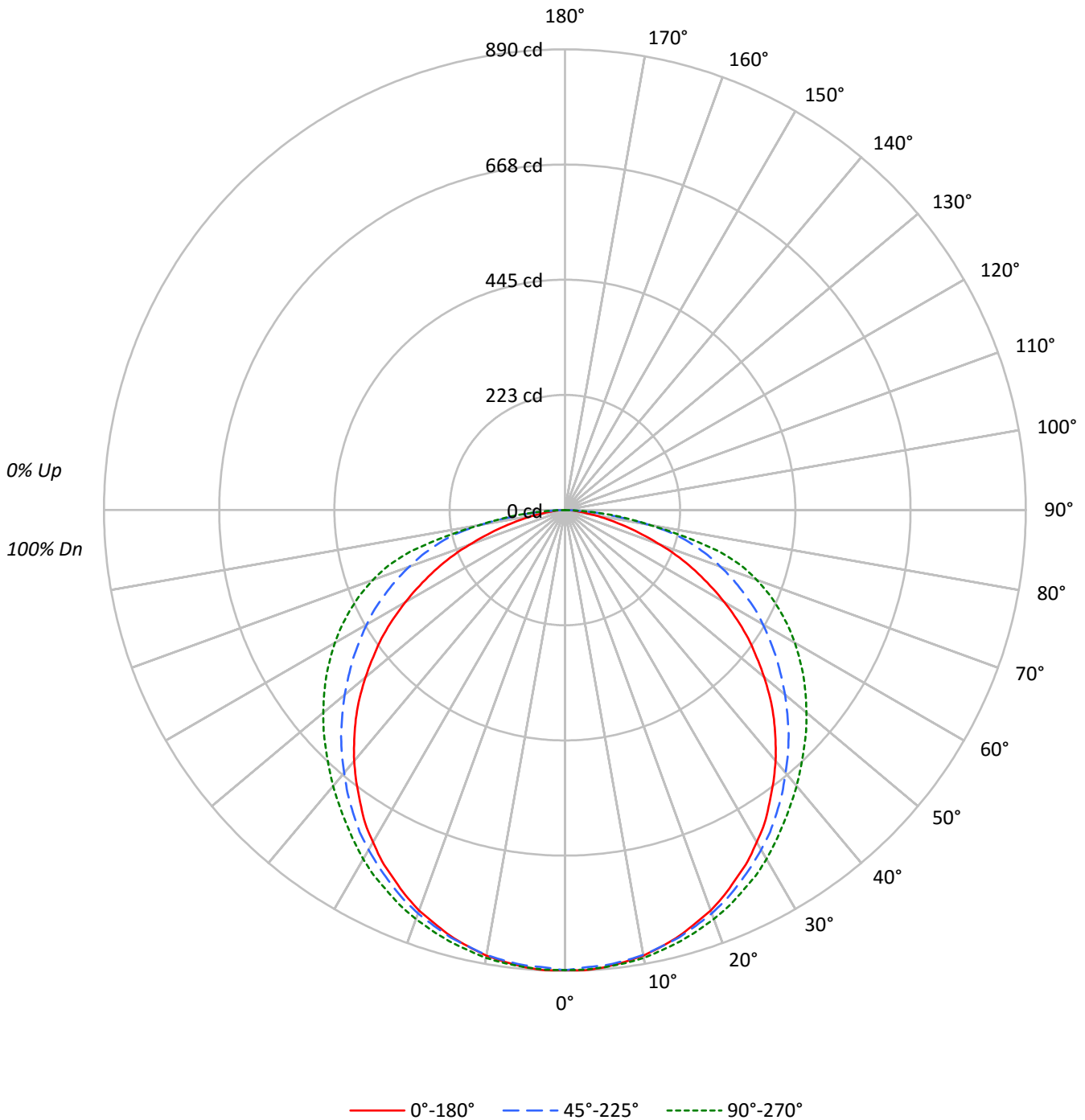
Input Watts (W): 33.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1196	1196	1196
5°	1197	1192	1197
10°	1194	1192	1200
15°	1187	1190	1201
20°	1179	1187	1203
25°	1164	1181	1205
30°	1151	1178	1210
35°	1132	1171	1211
40°	1112	1164	1222
45°	1087	1163	1242
50°	1051	1162	1275
55°	1014	1170	1321
60°	957	1188	1379
65°	883	1216	1457
70°	771	1258	1552
75°	626	1324	1604
80°	462	1297	1297
85°	354	956	1079



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	84.2	3.1
10°-20°	241.8	8.8
20°-30°	368.0	13.4
30°-40°	446.9	16.3
40°-50°	472.1	17.2
50°-60°	445.5	16.3
60°-70°	370.4	13.5
70°-80°	243.7	8.9
80°-90°	66.4	2.4
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	694.0	25.3
0°-40°	1140.8	41.7
0°-60°	2058.5	75.2
0°-90°	2739.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2739.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	889	889	889	889	889	
5°	886	886	883	886	886	84
15°	852	853	854	862	862	240
25°	784	789	796	810	812	362
35°	689	697	713	732	737	431
45°	571	582	611	641	652	440
55°	432	451	499	546	563	385
65°	278	310	382	438	458	274
75°	120	175	255	302	308	130
85°	23	50	62	69	70	28
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	888.7	888.7	888.7	888.7	888.7
2.5°	889.8	888.7	884.1	888.7	888.7
5°	886.4	886.4	882.9	886.4	886.4
7.5°	880.6	880.6	878.4	882.9	882.9
10°	873.8	873.8	872.6	878.4	878.4
12.5°	863.4	864.6	863.4	870.3	870.3
15°	852.0	853.1	854.3	862.3	862.3
17.5°	837.1	839.4	841.7	850.8	852.0
20°	823.3	824.5	829.0	839.4	840.5
22.5°	805.0	808.4	814.1	824.5	827.9
25°	784.3	788.9	795.8	809.6	811.8
27.5°	764.8	768.3	777.4	792.4	796.9
30°	740.8	746.5	758.0	772.9	778.6
32.5°	717.8	723.5	737.3	753.4	758.0
35°	689.1	697.2	713.2	731.6	737.3
37.5°	661.6	669.7	689.1	709.8	716.7
40°	633.0	642.1	662.8	686.9	696.0
42.5°	602.0	614.6	637.5	663.9	674.2
45°	571.0	582.5	611.2	641.0	652.5
47.5°	537.8	551.5	582.5	618.1	631.8
50°	502.2	519.4	555.0	594.0	608.9
52.5°	466.7	486.2	526.3	569.9	585.9
55°	432.3	450.6	498.8	545.8	563.0
57.5°	394.5	417.4	470.1	520.6	537.8
60°	355.5	380.7	441.5	494.2	512.6
62.5°	316.5	345.1	413.9	466.7	486.2
65°	277.5	309.6	381.8	438.0	457.5
67.5°	239.7	275.2	352.0	408.2	427.7
70°	196.1	240.8	319.9	375.0	394.5
72.5°	155.9	207.5	289.0	340.6	357.8
75°	120.4	175.4	254.6	301.6	308.5
77.5°	88.3	143.3	219.0	235.1	236.2
80°	59.6	114.7	167.4	165.1	167.4
82.5°	39.0	86.0	105.5	118.1	119.3
85°	22.9	50.5	61.9	68.8	69.9
87.5°	11.5	17.2	21.8	22.9	25.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)