

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: P309320

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-HRP-CA08-W2A-U-2700K**

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: P309320  
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: 24FCZ2-40HE-UNV-L82765-HRP-CA08-W2A-U-2700K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET  
Light Source: (336) 2700K 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**

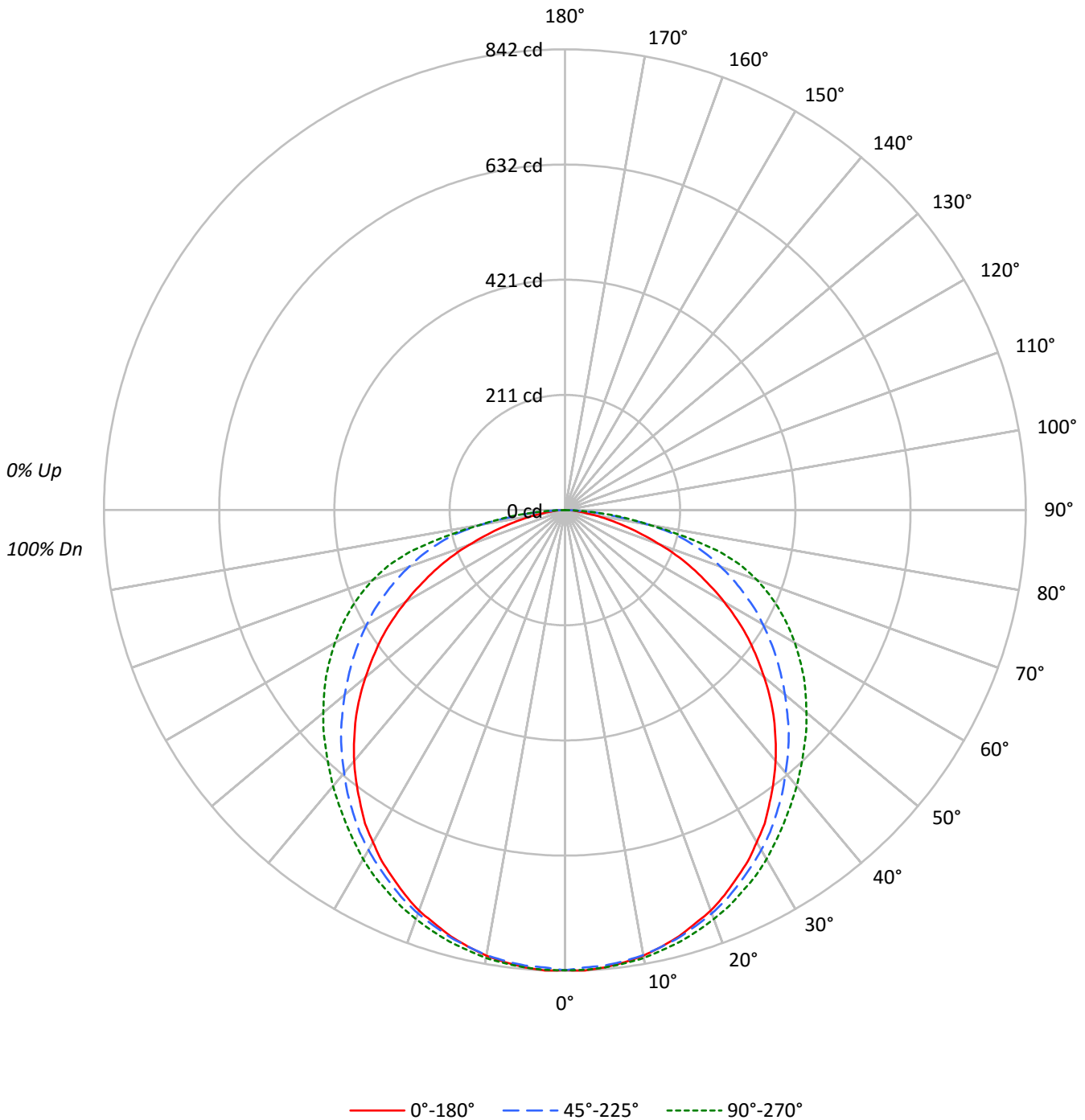
Lumens per Lamp: N/A  
Luminaire Lumens: 2592.0 lumens  
Efficiency: N/A  
Efficacy: 85.3 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 30.4  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	1132	1132	1132
5°	1133	1129	1133
10°	1130	1128	1136
15°	1123	1126	1137
20°	1116	1123	1139
25°	1102	1118	1141
30°	1089	1114	1145
35°	1071	1109	1146
40°	1052	1102	1157
45°	1028	1101	1175
50°	995	1099	1206
55°	960	1107	1250
60°	905	1124	1305
65°	836	1150	1379
70°	730	1191	1469
75°	592	1252	1517
80°	437	1227	1227
85°	335	905	1022



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	79.7	3.1
10°-20°	228.8	8.8
20°-30°	348.3	13.4
30°-40°	422.9	16.3
40°-50°	446.8	17.2
50°-60°	421.6	16.3
60°-70°	350.5	13.5
70°-80°	230.6	8.9
80°-90°	62.9	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°	656.7	25.3
0°-40°	1079.6	41.7
0°-60°	1948.0	75.2
0°-90°	2592.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2592.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	841	841	841	841	841	
5°	839	839	836	839	839	80
15°	806	807	808	816	816	227
25°	742	747	753	766	768	342
35°	652	660	675	692	698	408
45°	540	551	578	607	617	416
55°	409	426	472	516	533	364
65°	263	293	361	414	433	260
75°	114	166	241	285	292	123
85°	22	48	59	65	66	27
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	841.0	841.0	841.0	841.0	841.0
2.5°	842.1	841.0	836.6	841.0	841.0
5°	838.8	838.8	835.6	838.8	838.8
7.5°	833.4	833.4	831.2	835.6	835.6
10°	826.9	826.9	825.8	831.2	831.2
12.5°	817.1	818.2	817.1	823.6	823.6
15°	806.3	807.3	808.4	816.0	816.0
17.5°	792.1	794.3	796.5	805.2	806.3
20°	779.1	780.2	784.5	794.3	795.4
22.5°	761.8	765.0	770.4	780.2	783.5
25°	742.2	746.6	753.1	766.1	768.3
27.5°	723.8	727.0	735.7	749.8	754.2
30°	701.0	706.4	717.3	731.4	736.8
32.5°	679.3	684.7	697.7	712.9	717.3
35°	652.2	659.8	675.0	692.3	697.7
37.5°	626.1	633.7	652.2	671.7	678.2
40°	599.0	607.7	627.2	650.0	658.7
42.5°	569.7	581.6	603.3	628.3	638.1
45°	540.4	551.2	578.4	606.6	617.4
47.5°	508.9	521.9	551.2	584.9	597.9
50°	475.3	491.6	525.2	562.1	576.2
52.5°	441.6	460.1	498.1	539.3	554.5
55°	409.1	426.5	472.0	516.5	532.8
57.5°	373.3	395.0	444.9	492.6	508.9
60°	336.4	360.3	417.8	467.7	485.1
62.5°	299.5	326.6	391.7	441.6	460.1
65°	262.6	293.0	361.3	414.5	433.0
67.5°	226.8	260.4	333.1	386.3	404.8
70°	185.6	227.9	302.8	354.8	373.3
72.5°	147.6	196.4	273.5	322.3	338.6
75°	113.9	166.0	240.9	285.4	291.9
77.5°	83.6	135.6	207.3	222.5	223.5
80°	56.4	108.5	158.4	156.3	158.4
82.5°	36.9	81.4	99.8	111.8	112.9
85°	21.7	47.7	58.6	65.1	66.2
87.5°	10.9	16.3	20.6	21.7	23.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)