

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: P313160

Luminaire Tested: **24FCZ2-40HE-UNV-L83050-HRP-CP250-W2A-U-3000K**

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: P313160  
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-L83050-HRP-CP250-W2A-U-3000K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"  
POLYCARB SHEET  
Light Source: (336) 3000K 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**

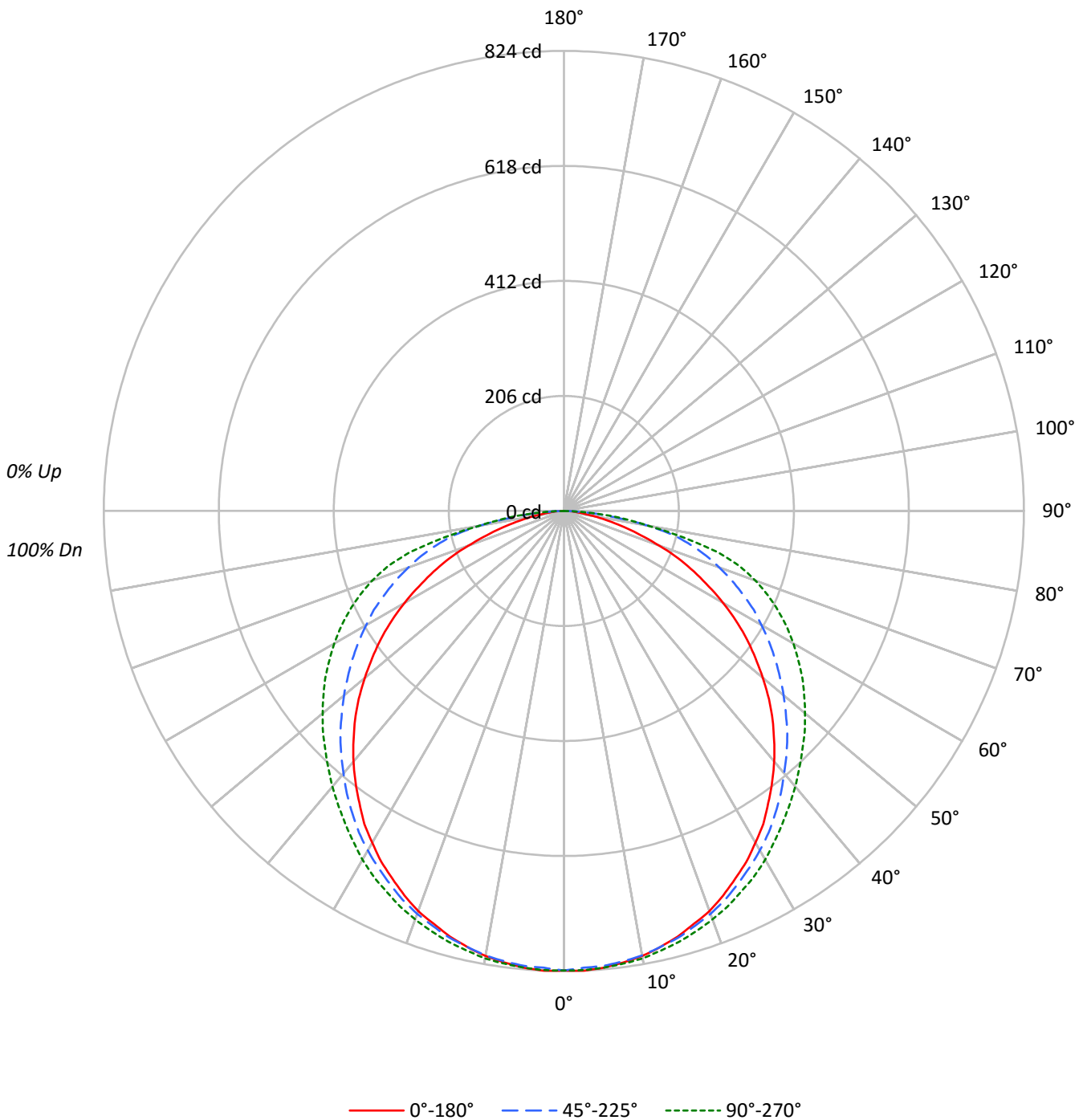
Lumens per Lamp: N/A  
Luminaire Lumens: 2537.0 lumens  
Efficiency: N/A  
Efficacy: 83.7 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 30.3  
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°	1107	1107	1107
5°	1109	1105	1109
10°	1106	1104	1112
15°	1099	1102	1113
20°	1092	1100	1115
25°	1079	1094	1116
30°	1066	1091	1120
35°	1048	1085	1122
40°	1030	1078	1132
45°	1006	1077	1150
50°	974	1076	1181
55°	939	1084	1223
60°	886	1100	1278
65°	818	1126	1349
70°	714	1166	1437
75°	580	1226	1485
80°	428	1202	1202
85°	327	886	1000



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	78.0	3.1
10°-20°	223.9	8.8
20°-30°	340.9	13.4
30°-40°	413.9	16.3
40°-50°	437.3	17.2
50°-60°	412.6	16.3
60°-70°	343.1	13.5
70°-80°	225.7	8.9
80°-90°	61.5	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°	642.8	25.3
0°-40°	1056.7	41.7
0°-60°	1906.7	75.2
0°-90°	2537.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2537.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	823	823	823	823	823	
5°	821	821	818	821	821	78
15°	789	790	791	799	799	223
25°	726	731	737	750	752	335
35°	638	646	661	678	683	400
45°	529	540	566	594	604	407
55°	400	417	462	506	522	357
65°	257	287	354	406	424	254
75°	112	162	236	279	286	120
85°	21	47	57	64	65	26
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	823.1	823.1	823.1	823.1	823.1
2.5°	824.2	823.1	818.9	823.1	823.1
5°	821.0	821.0	817.8	821.0	821.0
7.5°	815.7	815.7	813.6	817.8	817.8
10°	809.3	809.3	808.3	813.6	813.6
12.5°	799.8	800.8	799.8	806.1	806.1
15°	789.1	790.2	791.3	798.7	798.7
17.5°	775.3	777.5	779.6	788.1	789.1
20°	762.6	763.7	767.9	777.5	778.5
22.5°	745.6	748.8	754.1	763.7	766.8
25°	726.5	730.7	737.1	749.8	752.0
27.5°	708.4	711.6	720.1	733.9	738.2
30°	686.1	691.4	702.1	715.9	721.2
32.5°	664.9	670.2	682.9	697.8	702.1
35°	638.3	645.8	660.6	677.6	682.9
37.5°	612.8	620.3	638.3	657.4	663.8
40°	586.3	594.8	613.9	636.2	644.7
42.5°	557.6	569.3	590.5	615.0	624.5
45°	528.9	539.5	566.1	593.7	604.3
47.5°	498.1	510.9	539.5	572.5	585.2
50°	465.2	481.1	514.1	550.2	564.0
52.5°	432.3	450.3	487.5	527.9	542.7
55°	400.4	417.4	462.0	505.6	521.5
57.5°	365.4	386.6	435.5	482.2	498.1
60°	329.3	352.6	408.9	457.8	474.8
62.5°	293.1	319.7	383.4	432.3	450.3
65°	257.0	286.8	353.7	405.7	423.8
67.5°	222.0	254.9	326.1	378.1	396.2
70°	181.6	223.0	296.3	347.3	365.4
72.5°	144.4	192.2	267.7	315.4	331.4
75°	111.5	162.5	235.8	279.3	285.7
77.5°	81.8	132.8	202.9	217.7	218.8
80°	55.2	106.2	155.1	152.9	155.1
82.5°	36.1	79.7	97.7	109.4	110.5
85°	21.2	46.7	57.4	63.7	64.8
87.5°	10.6	15.9	20.2	21.2	23.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)