

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: P313913

Luminaire Tested: **24FCZ2-40HE-UNV-L83050-CP250-W2A-U-4500K**

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: P313913  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)  
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-CP250-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET  
Light Source: (336) 4500K 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**

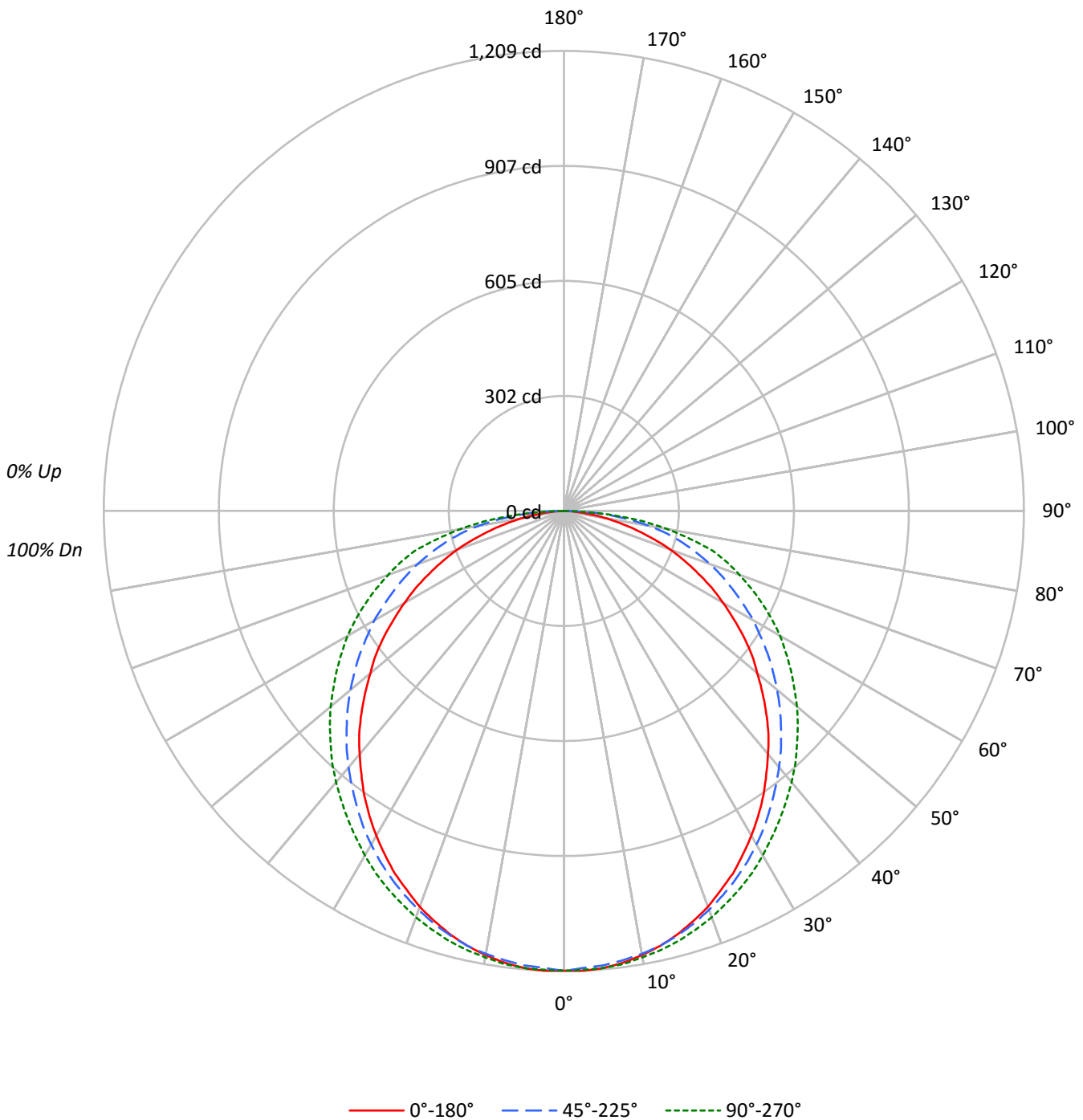
Lumens per Lamp: N/A  
Luminaire Lumens: 3663.0 lumens  
Efficiency: N/A  
Efficacy: 114.8 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 31.9  
Input Voltage (V): NR  
Input Current (A<sub>in</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	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	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	25	35	29	24	23

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

	0°	45°	90°
0°	1625	1625	1625
5°	1628	1618	1628
10°	1619	1614	1627
15°	1605	1608	1629
20°	1585	1598	1627
25°	1561	1586	1626
30°	1531	1573	1624
35°	1501	1557	1625
40°	1466	1545	1635
45°	1431	1536	1649
50°	1389	1531	1674
55°	1354	1534	1708
60°	1302	1547	1766
65°	1242	1563	1830
70°	1176	1611	1932
75°	1049	1681	2110
80°	895	1780	2156
85°	638	1763	2064



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	114.3	3.1
10°-20°	326.9	8.9
20°-30°	493.8	13.5
30°-40°	595.1	16.2
40°-50°	624.7	17.1
50°-60°	584.5	16.0
60°-70°	482.7	13.2
70°-80°	328.9	9.0
80°-90°	112.2	3.1
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°	935.0	25.5
0°-40°	1530.1	41.8
0°-60°	2739.2	74.8
0°-90°	3663.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3663.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1208	1208	1208	1208	1208	
5°	1206	1204	1198	1206	1206	114
15°	1152	1153	1155	1167	1169	325
25°	1051	1056	1068	1089	1095	484
35°	914	924	948	980	989	571
45°	752	768	807	851	866	580
55°	577	600	654	707	728	515
65°	390	423	491	553	575	387
75°	202	248	323	384	406	215
85°	41	81	114	129	134	52
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1208.0	1208.0	1208.0	1208.0	1208.0
2.5°	1209.2	1208.0	1201.9	1208.0	1206.8
5°	1205.6	1204.4	1198.3	1205.6	1205.6
7.5°	1197.1	1197.1	1191.0	1199.5	1200.7
10°	1184.9	1184.9	1181.3	1191.0	1191.0
12.5°	1170.4	1170.4	1170.4	1180.1	1181.3
15°	1152.1	1153.3	1154.6	1166.7	1169.1
17.5°	1130.2	1132.7	1136.3	1150.9	1153.3
20°	1107.2	1109.6	1115.7	1132.7	1136.3
22.5°	1078.0	1084.1	1092.6	1112.0	1115.7
25°	1051.2	1056.1	1068.3	1088.9	1095.0
27.5°	1018.4	1025.7	1041.5	1063.4	1071.9
30°	985.6	992.9	1012.4	1037.9	1045.2
32.5°	950.4	961.3	982.0	1008.7	1017.2
35°	913.9	923.6	947.9	979.5	989.3
37.5°	873.8	887.2	913.9	947.9	960.1
40°	834.9	849.5	879.9	916.3	930.9
42.5°	796.0	810.6	844.6	886.0	900.6
45°	752.3	768.1	807.0	850.7	866.5
47.5°	708.5	728.0	770.5	816.7	833.7
50°	663.6	685.4	731.6	780.2	799.7
52.5°	623.5	644.1	692.7	745.0	763.2
55°	577.3	600.4	653.8	707.3	728.0
57.5°	529.9	555.4	612.5	670.9	691.5
60°	483.7	511.6	574.8	633.2	656.3
62.5°	438.7	466.7	532.3	593.1	616.2
65°	390.1	422.9	491.0	553.0	574.8
67.5°	343.9	379.2	450.9	511.6	533.5
70°	299.0	333.0	409.6	469.1	491.0
72.5°	250.4	289.2	365.8	427.8	450.9
75°	201.7	247.9	323.3	384.0	405.9
77.5°	156.8	204.2	279.5	329.4	340.3
80°	115.5	164.1	229.7	264.9	278.3
82.5°	74.1	122.7	175.0	200.5	211.5
85°	41.3	81.4	114.2	128.8	133.7
87.5°	17.0	35.2	46.2	52.3	52.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)