

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: P311346

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-S-CA08-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: P311346  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)  
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-S-CA08-W2A-U-3000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC 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**

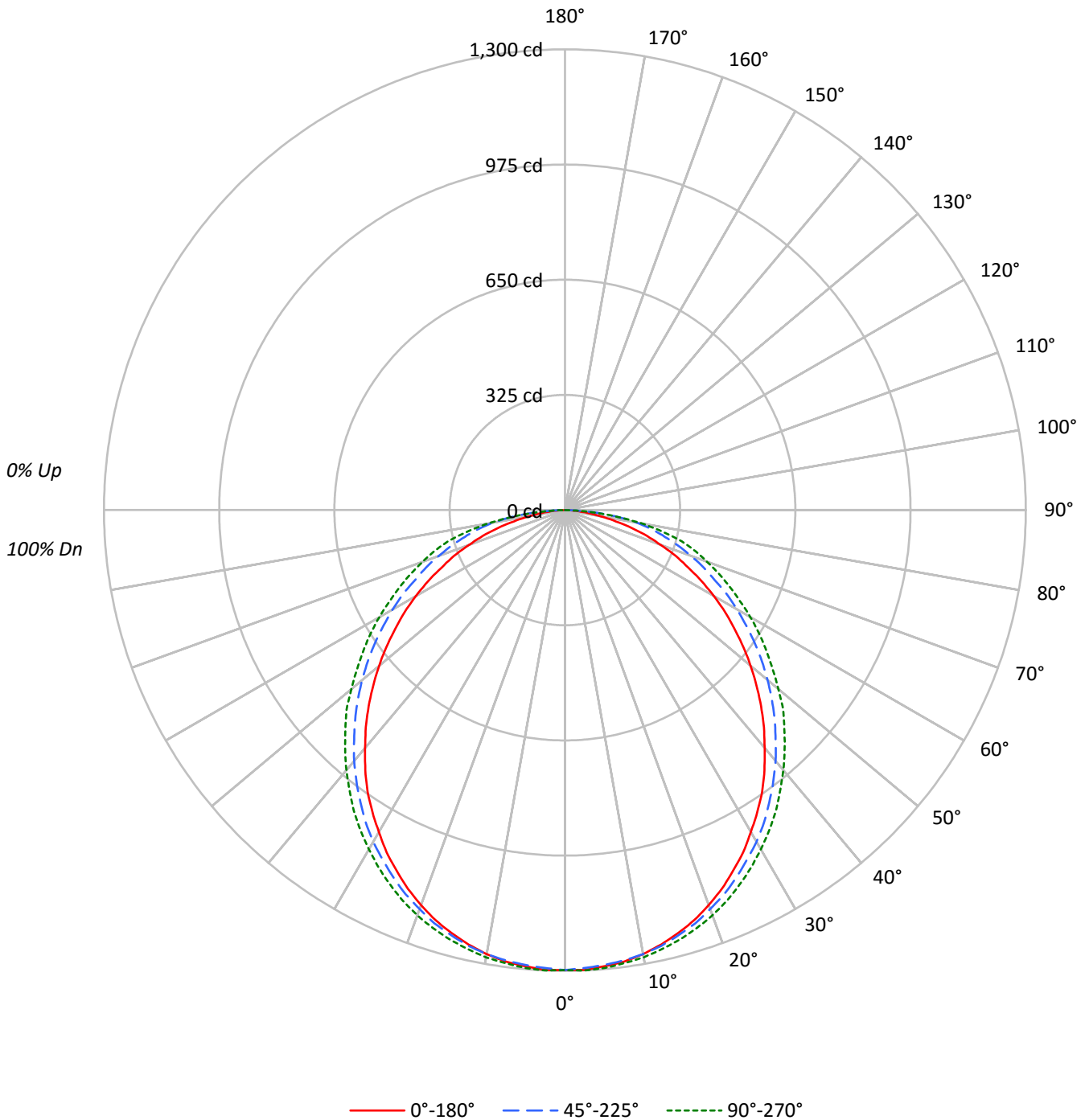
Lumens per Lamp: N/A  
Luminaire Lumens: 3694.0 lumens  
Efficiency: N/A  
Efficacy: 122.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 30.2  
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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

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

	0°	45°	90°
0°	1746	1746	1746
5°	1745	1740	1751
10°	1738	1738	1751
15°	1721	1729	1747
20°	1699	1715	1742
25°	1667	1698	1731
30°	1630	1679	1717
35°	1594	1652	1704
40°	1539	1624	1684
45°	1489	1592	1666
50°	1432	1562	1645
55°	1368	1533	1629
60°	1304	1509	1626
65°	1222	1483	1636
70°	1131	1491	1680
75°	1013	1519	1775
80°	818	1609	1736
85°	616	1413	1377



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	122.9	3.3
10°-20°	351.0	9.5
20°-30°	527.7	14.3
30°-40°	628.6	17.0
40°-50°	643.3	17.4
50°-60°	579.2	15.7
60°-70°	454.8	12.3
70°-80°	295.2	8.0
80°-90°	91.3	2.5
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°	1001.6	27.1
0°-40°	1630.2	44.1
0°-60°	2852.7	77.2
0°-90°	3694.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3694.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1298	1298	1298	1298	1298	
5°	1292	1294	1288	1295	1297	123
15°	1236	1239	1241	1252	1254	348
25°	1123	1132	1144	1163	1166	517
35°	970	982	1006	1030	1037	605
45°	783	801	837	868	875	603
55°	583	609	654	688	695	523
65°	384	413	466	504	514	382
75°	195	232	292	332	341	206
85°	40	74	92	89	89	48
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1297.7	1297.7	1297.7	1297.7	1297.7
2.5°	1298.9	1298.9	1293.0	1298.9	1300.1
5°	1291.9	1294.2	1288.3	1295.4	1296.6
7.5°	1284.8	1284.8	1281.3	1288.3	1289.5
10°	1271.9	1273.1	1271.9	1280.1	1281.3
12.5°	1255.5	1257.8	1259.0	1267.2	1268.4
15°	1235.5	1239.1	1241.4	1252.0	1254.3
17.5°	1213.2	1216.8	1222.6	1234.4	1236.7
20°	1186.3	1191.0	1198.0	1213.2	1216.8
22.5°	1156.9	1161.6	1173.4	1187.4	1193.3
25°	1122.9	1132.3	1144.0	1162.8	1166.3
27.5°	1088.9	1097.1	1112.3	1132.3	1137.0
30°	1049.0	1061.9	1080.7	1100.6	1105.3
32.5°	1010.3	1023.2	1045.5	1066.6	1072.4
35°	970.4	982.1	1005.6	1030.2	1037.2
37.5°	924.6	939.9	965.7	990.3	997.3
40°	876.5	895.3	924.6	950.4	958.6
42.5°	830.7	850.7	880.0	908.2	917.6
45°	782.6	801.4	836.6	868.3	875.3
47.5°	733.3	754.5	792.0	823.7	835.4
50°	684.1	706.4	746.3	779.1	786.1
52.5°	634.8	658.2	700.5	735.7	739.2
55°	583.2	609.0	653.6	687.6	694.6
57.5°	536.2	558.5	606.6	641.8	650.0
60°	484.6	509.2	560.9	593.7	604.3
62.5°	435.3	461.1	515.1	548.0	557.3
65°	383.7	413.0	465.8	504.5	513.9
67.5°	339.1	367.3	423.6	461.1	470.5
70°	287.5	319.2	379.0	417.7	427.1
72.5°	242.9	275.7	335.6	373.1	387.2
75°	194.8	232.3	292.2	332.1	341.4
77.5°	147.8	191.3	252.3	282.8	282.8
80°	105.6	151.4	207.7	221.8	224.1
82.5°	69.2	113.8	153.7	152.5	152.5
85°	39.9	73.9	91.5	89.2	89.2
87.5°	15.3	30.5	32.9	32.9	31.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)