

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: P311571

Luminaire Tested: **24FCZ2-50-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: P311571  
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: 24FCZ2-50-UNV-L82765-S-CA08-W2A-U-3000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET  
Light Source: (168) 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

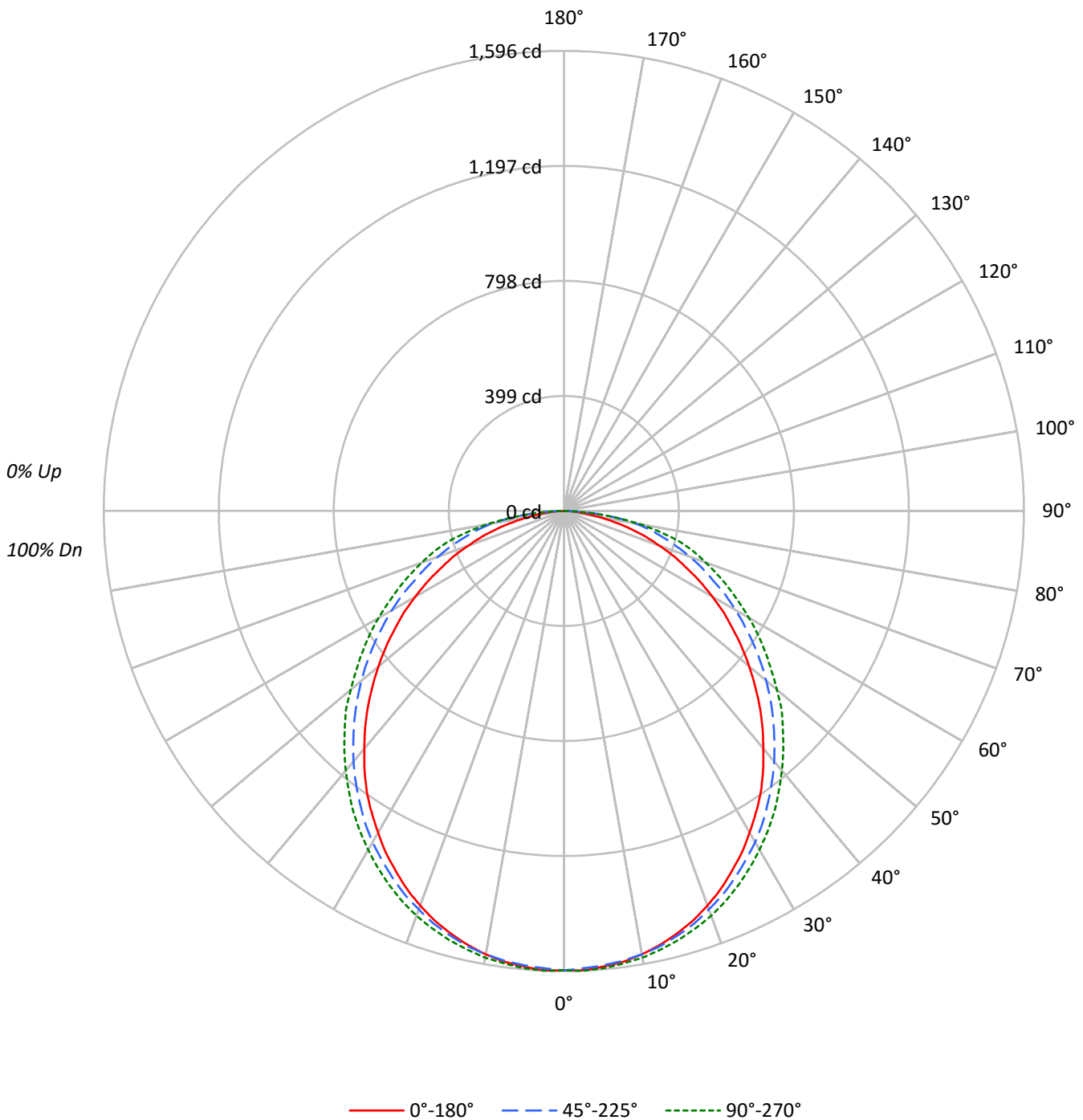
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4536.0 lumens  
Efficiency: N/A  
Efficacy: 107.0 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): 42.4  
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	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°	2144	2144	2144
5°	2143	2137	2150
10°	2134	2134	2150
15°	2113	2123	2145
20°	2086	2106	2139
25°	2047	2086	2126
30°	2001	2062	2109
35°	1957	2028	2092
40°	1890	1994	2067
45°	1829	1955	2045
50°	1758	1918	2021
55°	1680	1882	2001
60°	1601	1853	1997
65°	1500	1821	2009
70°	1389	1831	2063
75°	1243	1865	2180
80°	1005	1976	2132
85°	756	1735	1690



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	150.9	3.3
10°-20°	431.1	9.5
20°-30°	648.0	14.3
30°-40°	771.9	17.0
40°-50°	790.0	17.4
50°-60°	711.2	15.7
60°-70°	558.5	12.3
70°-80°	362.5	8.0
80°-90°	112.1	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°	1229.9	27.1
0°-40°	2001.8	44.1
0°-60°	3502.9	77.2
0°-90°	4536.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4536.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1594	1594	1594	1594	1594	
5°	1586	1589	1582	1591	1592	151
15°	1517	1522	1524	1537	1540	428
25°	1379	1390	1405	1428	1432	635
35°	1192	1206	1235	1265	1274	743
45°	961	984	1027	1066	1075	741
55°	716	748	802	844	853	642
65°	471	507	572	620	631	469
75°	239	285	359	408	419	253
85°	49	91	112	110	110	59
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1593.5	1593.5	1593.5	1593.5	1593.5
2.5°	1595.0	1595.0	1587.8	1595.0	1596.4
5°	1586.3	1589.2	1582.0	1590.6	1592.1
7.5°	1577.7	1577.7	1573.4	1582.0	1583.4
10°	1561.8	1563.3	1561.8	1571.9	1573.4
12.5°	1541.7	1544.5	1546.0	1556.1	1557.5
15°	1517.2	1521.5	1524.4	1537.3	1540.2
17.5°	1489.8	1494.1	1501.3	1515.7	1518.6
20°	1456.7	1462.4	1471.1	1489.8	1494.1
22.5°	1420.6	1426.4	1440.8	1458.1	1465.3
25°	1378.8	1390.4	1404.8	1427.8	1432.2
27.5°	1337.1	1347.1	1365.9	1390.4	1396.1
30°	1288.1	1303.9	1327.0	1351.5	1357.2
32.5°	1240.5	1256.4	1283.8	1309.7	1316.9
35°	1191.5	1206.0	1234.8	1265.0	1273.7
37.5°	1135.4	1154.1	1185.8	1216.0	1224.7
40°	1076.3	1099.3	1135.4	1167.0	1177.1
42.5°	1020.1	1044.6	1080.6	1115.2	1126.7
45°	961.0	984.1	1027.3	1066.2	1074.8
47.5°	900.5	926.4	972.5	1011.4	1025.9
50°	840.0	867.4	916.3	956.7	965.3
52.5°	779.5	808.3	860.2	903.4	907.7
55°	716.1	747.8	802.5	844.3	853.0
57.5°	658.4	685.8	744.9	788.1	798.2
60°	595.1	625.3	688.7	729.0	742.0
62.5°	534.5	566.2	632.5	672.9	684.4
65°	471.1	507.2	572.0	619.5	631.1
67.5°	416.4	451.0	520.1	566.2	577.8
70°	353.0	391.9	465.4	512.9	524.5
72.5°	298.2	338.6	412.1	458.2	475.5
75°	239.2	285.3	358.8	407.7	419.3
77.5°	181.5	234.9	309.8	347.2	347.2
80°	129.7	185.9	255.0	272.3	275.2
82.5°	85.0	139.8	188.7	187.3	187.3
85°	49.0	90.8	112.4	109.5	109.5
87.5°	18.7	37.5	40.3	40.3	38.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)