

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: P311672

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-S-CA125-W2A-U-4000K**

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: P311672  
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: 24FCZ2-60HE-UNV-L82765-S-CA125-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" ACRYLIC SHEET  
Light Source: (336) 4000K 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**

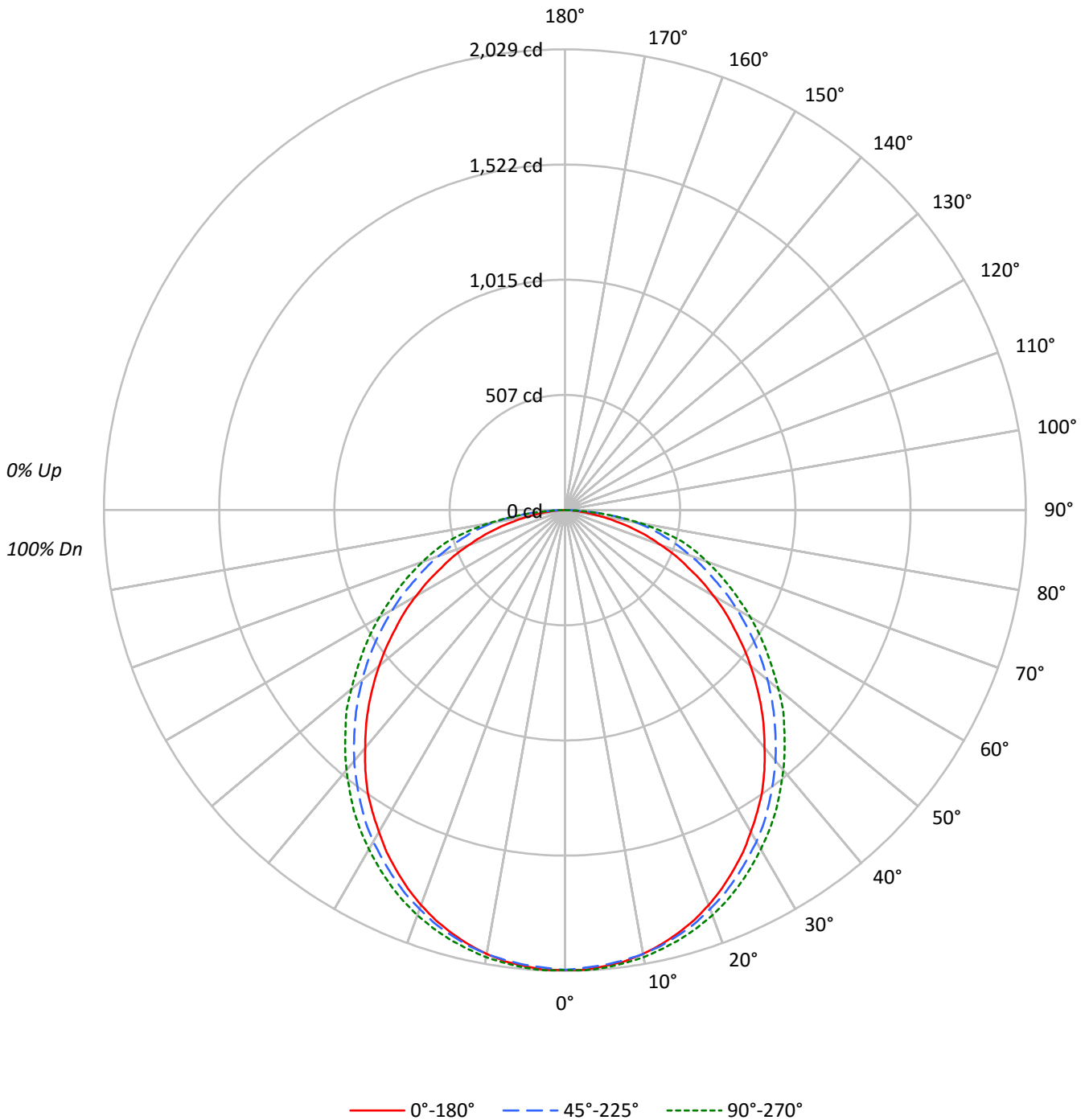
Lumens per Lamp: N/A  
Luminaire Lumens: 5764.0 lumens  
Efficiency: N/A  
Efficacy: 119.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 48.2  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	2724	2724	2724
5°	2723	2715	2732
10°	2712	2712	2732
15°	2685	2698	2726
20°	2650	2677	2718
25°	2601	2650	2702
30°	2543	2620	2680
35°	2487	2577	2658
40°	2402	2534	2627
45°	2324	2484	2599
50°	2234	2437	2568
55°	2134	2392	2543
60°	2035	2355	2537
65°	1906	2314	2553
70°	1765	2327	2622
75°	1580	2370	2770
80°	1277	2511	2710
85°	960	2205	2147



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	191.7	3.3
10°-20°	547.8	9.5
20°-30°	823.4	14.3
30°-40°	980.8	17.0
40°-50°	1003.8	17.4
50°-60°	903.7	15.7
60°-70°	709.7	12.3
70°-80°	460.6	8.0
80°-90°	142.4	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°	1562.9	27.1
0°-40°	2543.7	44.1
0°-60°	4451.2	77.2
0°-90°	5764.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5764.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2025	2025	2025	2025	2025	
5°	2016	2019	2010	2021	2023	192
15°	1928	1933	1937	1954	1957	544
25°	1752	1767	1785	1814	1820	807
35°	1514	1532	1569	1608	1618	945
45°	1221	1250	1305	1355	1366	941
55°	910	950	1020	1073	1084	816
65°	599	644	727	787	802	596
75°	304	362	456	518	533	322
85°	62	115	143	139	139	75
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2024.9	2024.9	2024.9	2024.9	2024.9
2.5°	2026.8	2026.8	2017.6	2026.8	2028.6
5°	2015.8	2019.4	2010.3	2021.3	2023.1
7.5°	2004.8	2004.8	1999.3	2010.3	2012.1
10°	1984.7	1986.5	1984.7	1997.5	1999.3
12.5°	1959.0	1962.7	1964.5	1977.3	1979.2
15°	1927.9	1933.4	1937.0	1953.5	1957.2
17.5°	1893.1	1898.6	1907.8	1926.1	1929.7
20°	1851.0	1858.3	1869.3	1893.1	1898.6
22.5°	1805.2	1812.6	1830.9	1852.8	1862.0
25°	1752.1	1766.8	1785.1	1814.4	1819.9
27.5°	1699.0	1711.9	1735.7	1766.8	1774.1
30°	1636.8	1656.9	1686.2	1717.3	1724.7
32.5°	1576.4	1596.5	1631.3	1664.3	1673.4
35°	1514.1	1532.4	1569.0	1607.5	1618.5
37.5°	1442.7	1466.5	1506.8	1545.2	1556.2
40°	1367.7	1396.9	1442.7	1483.0	1495.8
42.5°	1296.2	1327.4	1373.1	1417.1	1431.7
45°	1221.2	1250.5	1305.4	1354.8	1365.8
47.5°	1144.3	1177.2	1235.8	1285.3	1303.6
50°	1067.4	1102.2	1164.4	1215.7	1226.7
52.5°	990.5	1027.1	1093.0	1147.9	1153.4
55°	909.9	950.2	1019.8	1072.9	1083.9
57.5°	836.7	871.5	946.6	1001.5	1014.3
60°	756.1	794.6	875.2	926.4	942.9
62.5°	679.2	719.5	803.7	855.0	869.7
65°	598.7	644.5	726.9	787.3	801.9
67.5°	529.1	573.1	660.9	719.5	734.2
70°	448.6	498.0	591.4	651.8	666.4
72.5°	379.0	430.3	523.6	582.2	604.2
75°	303.9	362.5	455.9	518.1	532.8
77.5°	230.7	298.4	393.6	441.2	441.2
80°	164.8	236.2	324.1	346.0	349.7
82.5°	108.0	177.6	239.8	238.0	238.0
85°	62.2	115.3	142.8	139.1	139.1
87.5°	23.8	47.6	51.3	51.3	49.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)