

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: P311683

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-S-CP125-W2A-U-5000K**

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: P311683  
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-CP125-W2A-U-5000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" POLYCARB SHEET  
Light Source: (336) 5000K 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**

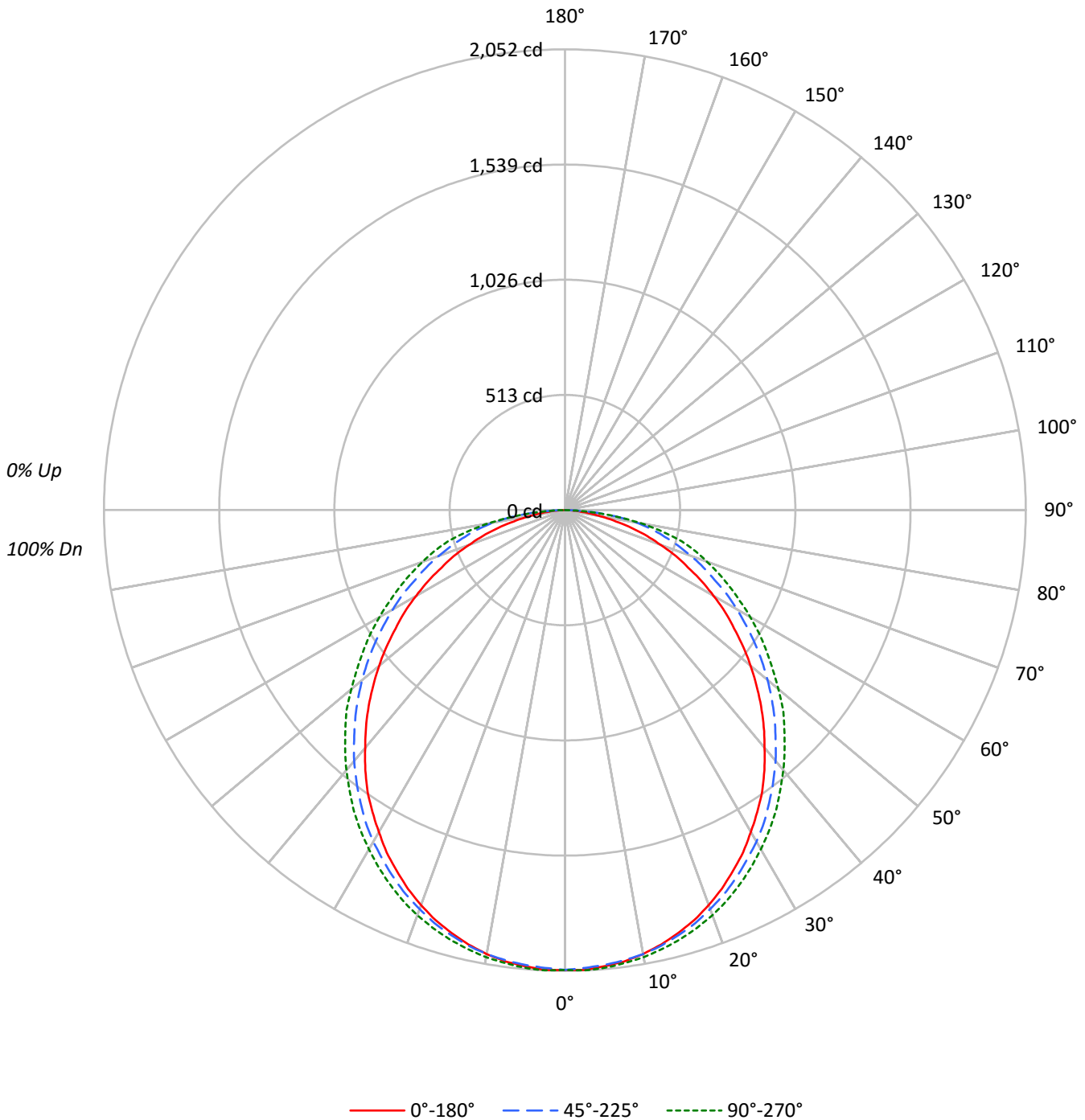
Lumens per Lamp: N/A  
Luminaire Lumens: 5830.0 lumens  
Efficiency: N/A  
Efficacy: 119.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 48.7  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	2756	2756	2756
5°	2754	2746	2764
10°	2743	2743	2763
15°	2716	2729	2757
20°	2681	2707	2750
25°	2631	2680	2733
30°	2572	2650	2710
35°	2516	2607	2689
40°	2430	2563	2657
45°	2350	2512	2629
50°	2260	2465	2597
55°	2159	2420	2572
60°	2058	2382	2566
65°	1928	2341	2582
70°	1785	2353	2652
75°	1598	2397	2802
80°	1292	2540	2741
85°	973	2229	2172



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	193.9	3.3
10°-20°	554.0	9.5
20°-30°	832.8	14.3
30°-40°	992.0	17.0
40°-50°	1015.3	17.4
50°-60°	914.1	15.7
60°-70°	717.8	12.3
70°-80°	465.9	8.0
80°-90°	144.1	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°	1580.8	27.1
0°-40°	2572.8	44.1
0°-60°	4502.2	77.2
0°-90°	5830.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5830.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2048	2048	2048	2048	2048	
5°	2039	2043	2033	2044	2046	194
15°	1950	1956	1959	1976	1980	550
25°	1772	1787	1806	1835	1841	816
35°	1532	1550	1587	1626	1637	955
45°	1235	1265	1320	1370	1382	952
55°	920	961	1032	1085	1096	825
65°	606	652	735	796	811	603
75°	307	367	461	524	539	325
85°	63	117	144	141	141	76
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2048.1	2048.1	2048.1	2048.1	2048.1
2.5°	2050.0	2050.0	2040.7	2050.0	2051.8
5°	2038.9	2042.6	2033.3	2044.4	2046.3
7.5°	2027.7	2027.7	2022.2	2033.3	2035.2
10°	2007.4	2009.2	2007.4	2020.3	2022.2
12.5°	1981.5	1985.2	1987.0	2000.0	2001.8
15°	1950.0	1955.5	1959.2	1975.9	1979.6
17.5°	1914.8	1920.3	1929.6	1948.1	1951.8
20°	1872.2	1879.6	1890.7	1914.8	1920.3
22.5°	1825.9	1833.3	1851.8	1874.0	1883.3
25°	1772.2	1787.0	1805.5	1835.2	1840.7
27.5°	1718.5	1731.5	1755.5	1787.0	1794.4
30°	1655.5	1675.9	1705.5	1737.0	1744.4
32.5°	1594.4	1614.8	1650.0	1683.3	1692.6
35°	1531.5	1550.0	1587.0	1625.9	1637.0
37.5°	1459.2	1483.3	1524.1	1562.9	1574.1
40°	1383.3	1412.9	1459.2	1500.0	1512.9
42.5°	1311.1	1342.6	1388.9	1433.3	1448.1
45°	1235.2	1264.8	1320.4	1370.3	1381.5
47.5°	1157.4	1190.7	1250.0	1300.0	1318.5
50°	1079.6	1114.8	1177.8	1229.6	1240.7
52.5°	1001.8	1038.9	1105.5	1161.1	1166.6
55°	920.4	961.1	1031.5	1085.2	1096.3
57.5°	846.3	881.5	957.4	1012.9	1025.9
60°	764.8	803.7	885.2	937.0	953.7
62.5°	687.0	727.8	813.0	864.8	879.6
65°	605.5	651.8	735.2	796.3	811.1
67.5°	535.2	579.6	668.5	727.8	742.6
70°	453.7	503.7	598.1	659.2	674.1
72.5°	383.3	435.2	529.6	588.9	611.1
75°	307.4	366.7	461.1	524.1	538.9
77.5°	233.3	301.8	398.1	446.3	446.3
80°	166.7	238.9	327.8	350.0	353.7
82.5°	109.3	179.6	242.6	240.7	240.7
85°	63.0	116.7	144.4	140.7	140.7
87.5°	24.1	48.1	51.9	51.9	50.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)