

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: P314440

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-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: P314440  
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-L83050-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**

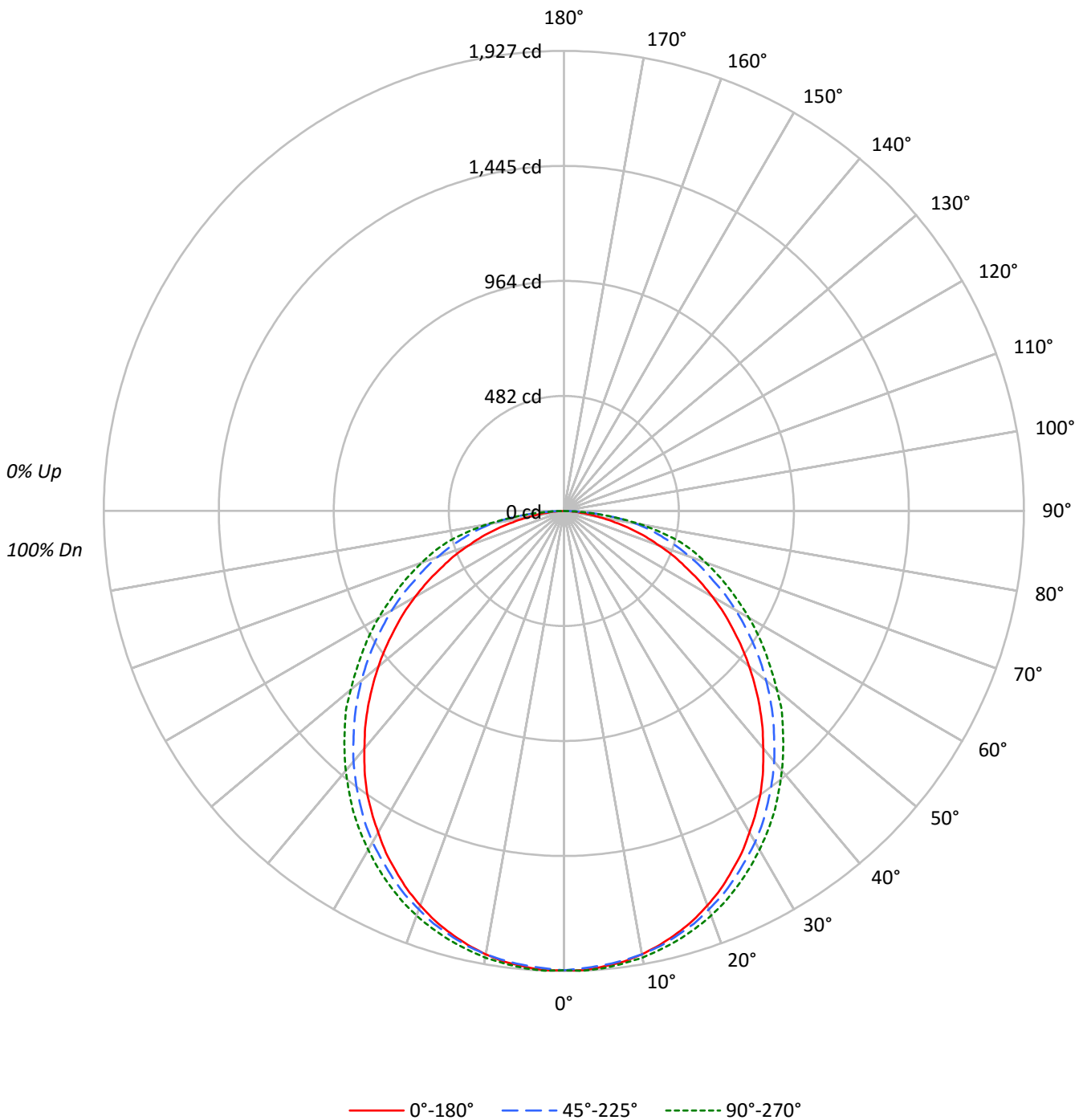
Lumens per Lamp: N/A  
Luminaire Lumens: 5476.0 lumens  
Efficiency: N/A  
Efficacy: 115.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 47.5  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	2588	2588	2588
5°	2587	2579	2596
10°	2576	2576	2595
15°	2551	2563	2590
20°	2518	2543	2583
25°	2471	2518	2567
30°	2416	2489	2546
35°	2363	2448	2526
40°	2282	2407	2496
45°	2208	2360	2469
50°	2123	2316	2439
55°	2028	2273	2415
60°	1933	2237	2411
65°	1811	2198	2425
70°	1676	2210	2491
75°	1501	2252	2632
80°	1213	2386	2574
85°	912	2095	2041



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	182.1	3.3
10°-20°	520.4	9.5
20°-30°	782.3	14.3
30°-40°	931.8	17.0
40°-50°	953.7	17.4
50°-60°	858.6	15.7
60°-70°	674.2	12.3
70°-80°	437.6	8.0
80°-90°	135.3	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°	1484.8	27.1
0°-40°	2416.6	44.1
0°-60°	4228.8	77.2
0°-90°	5476.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5476.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1924	1924	1924	1924	1924	
5°	1915	1918	1910	1920	1922	182
15°	1832	1837	1840	1856	1859	516
25°	1665	1678	1696	1724	1729	767
35°	1438	1456	1491	1527	1538	897
45°	1160	1188	1240	1287	1298	894
55°	864	903	969	1019	1030	775
65°	569	612	690	748	762	566
75°	289	344	433	492	506	306
85°	59	110	136	132	132	71
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1923.8	1923.8	1923.8	1923.8	1923.8
2.5°	1925.5	1925.5	1916.8	1925.5	1927.2
5°	1915.1	1918.5	1909.8	1920.3	1922.0
7.5°	1904.6	1904.6	1899.4	1909.8	1911.6
10°	1885.5	1887.2	1885.5	1897.7	1899.4
12.5°	1861.1	1864.6	1866.4	1878.5	1880.3
15°	1831.6	1836.8	1840.3	1855.9	1859.4
17.5°	1798.5	1803.7	1812.4	1829.8	1833.3
20°	1758.5	1765.5	1775.9	1798.5	1803.7
22.5°	1715.0	1722.0	1739.4	1760.3	1768.9
25°	1664.6	1678.5	1695.9	1723.7	1728.9
27.5°	1614.1	1626.3	1648.9	1678.5	1685.5
30°	1555.0	1574.1	1602.0	1631.5	1638.5
32.5°	1497.6	1516.7	1549.8	1581.1	1589.8
35°	1438.5	1455.9	1490.6	1527.2	1537.6
37.5°	1370.6	1393.2	1431.5	1468.0	1478.5
40°	1299.3	1327.1	1370.6	1408.9	1421.1
42.5°	1231.5	1261.1	1304.5	1346.3	1360.2
45°	1160.2	1188.0	1240.2	1287.1	1297.6
47.5°	1087.1	1118.4	1174.1	1221.0	1238.4
50°	1014.1	1047.1	1106.2	1154.9	1165.4
52.5°	941.0	975.8	1038.4	1090.6	1095.8
55°	864.5	902.7	968.8	1019.3	1029.7
57.5°	794.9	827.9	899.3	951.4	963.6
60°	718.4	754.9	831.4	880.1	895.8
62.5°	645.3	683.6	763.6	812.3	826.2
65°	568.8	612.3	690.5	747.9	761.8
67.5°	502.7	544.4	627.9	683.6	697.5
70°	426.1	473.1	561.8	619.2	633.1
72.5°	360.1	408.8	497.5	553.1	574.0
75°	288.7	344.4	433.1	492.2	506.2
77.5°	219.2	283.5	374.0	419.2	419.2
80°	156.5	224.4	307.9	328.7	332.2
82.5°	102.6	168.7	227.9	226.1	226.1
85°	59.1	109.6	135.7	132.2	132.2
87.5°	22.6	45.2	48.7	48.7	47.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)