

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: P314442

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-S-CA08-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: P314442  
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-4000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" 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**

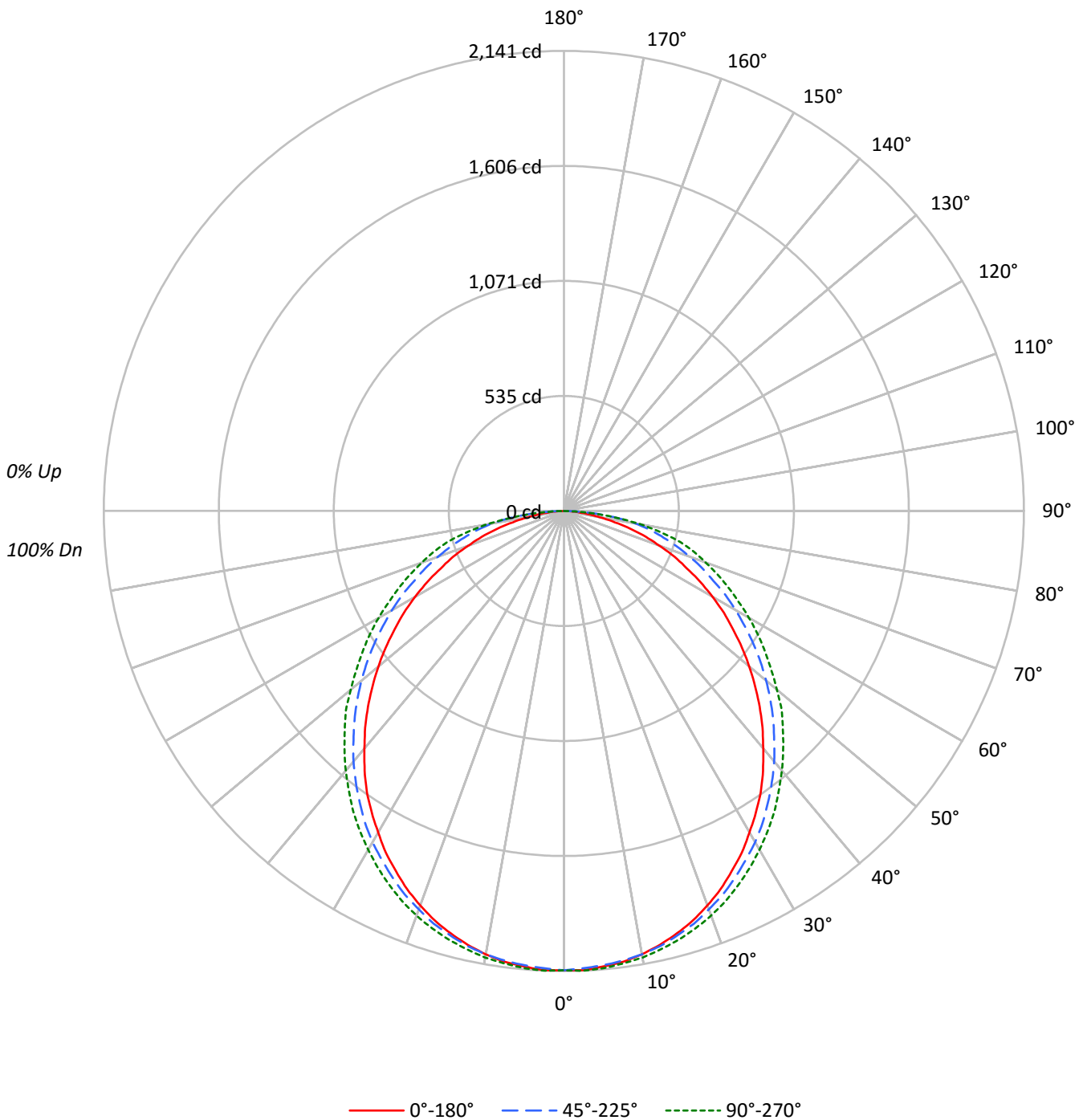
Lumens per Lamp: N/A  
Luminaire Lumens: 6084.0 lumens  
Efficiency: N/A  
Efficacy: 124.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 48.7  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	2876	2876	2876
5°	2874	2866	2884
10°	2862	2862	2883
15°	2835	2848	2878
20°	2798	2825	2869
25°	2746	2797	2852
30°	2684	2765	2828
35°	2625	2720	2806
40°	2536	2675	2773
45°	2453	2622	2743
50°	2358	2573	2710
55°	2253	2525	2684
60°	2148	2486	2678
65°	2012	2443	2695
70°	1863	2456	2767
75°	1668	2502	2924
80°	1347	2651	2860
85°	1014	2326	2268



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	202.3	3.3
10°-20°	578.2	9.5
20°-30°	869.1	14.3
30°-40°	1035.3	17.0
40°-50°	1059.5	17.4
50°-60°	953.9	15.7
60°-70°	749.1	12.3
70°-80°	486.2	8.0
80°-90°	150.4	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°	1649.6	27.1
0°-40°	2684.9	44.1
0°-60°	4698.3	77.2
0°-90°	6084.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6084.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2137	2137	2137	2137	2137	
5°	2128	2132	2122	2134	2135	202
15°	2035	2041	2045	2062	2066	574
25°	1849	1865	1884	1915	1921	852
35°	1598	1618	1656	1697	1708	997
45°	1289	1320	1378	1430	1442	994
55°	960	1003	1076	1132	1144	861
65°	632	680	767	831	846	629
75°	321	383	481	547	562	339
85°	66	122	151	147	147	79
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2137.3	2137.3	2137.3	2137.3	2137.3
2.5°	2139.3	2139.3	2129.6	2139.3	2141.2
5°	2127.7	2131.6	2121.9	2133.5	2135.4
7.5°	2116.1	2116.1	2110.3	2121.9	2123.8
10°	2094.8	2096.8	2094.8	2108.4	2110.3
12.5°	2067.8	2071.6	2073.6	2087.1	2089.0
15°	2034.9	2040.7	2044.6	2062.0	2065.8
17.5°	1998.2	2004.0	2013.7	2033.0	2036.9
20°	1953.8	1961.5	1973.1	1998.2	2004.0
22.5°	1905.4	1913.2	1932.5	1955.7	1965.4
25°	1849.4	1864.9	1884.2	1915.1	1920.9
27.5°	1793.4	1806.9	1832.0	1864.9	1872.6
30°	1727.7	1748.9	1779.8	1812.7	1820.4
32.5°	1663.9	1685.1	1721.9	1756.6	1766.3
35°	1598.2	1617.5	1656.2	1696.7	1708.3
37.5°	1522.8	1547.9	1590.5	1631.0	1642.6
40°	1443.6	1474.5	1522.8	1565.3	1578.9
42.5°	1368.2	1401.1	1449.4	1495.8	1511.2
45°	1289.0	1319.9	1377.9	1430.1	1441.6
47.5°	1207.8	1242.6	1304.4	1356.6	1375.9
50°	1126.6	1163.4	1229.1	1283.2	1294.8
52.5°	1045.5	1084.1	1153.7	1211.7	1217.5
55°	960.5	1003.0	1076.4	1132.4	1144.0
57.5°	883.2	919.9	999.1	1057.1	1070.6
60°	798.1	838.7	923.7	977.8	995.2
62.5°	717.0	759.5	848.4	902.5	917.9
65°	631.9	680.2	767.2	831.0	846.4
67.5°	558.5	604.9	697.6	759.5	774.9
70°	473.5	525.6	624.2	688.0	703.4
72.5°	400.0	454.1	552.7	614.5	637.7
75°	320.8	382.6	481.2	546.9	562.4
77.5°	243.5	315.0	415.5	465.7	465.7
80°	173.9	249.3	342.1	365.2	369.1
82.5°	114.0	187.5	253.2	251.2	251.2
85°	65.7	121.7	150.7	146.9	146.9
87.5°	25.1	50.2	54.1	54.1	52.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)