

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: P314461

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-S-CP250-W2A-U-3500K**

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: P314461  
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-CP250-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET  
Light Source: (336) 3500K 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**

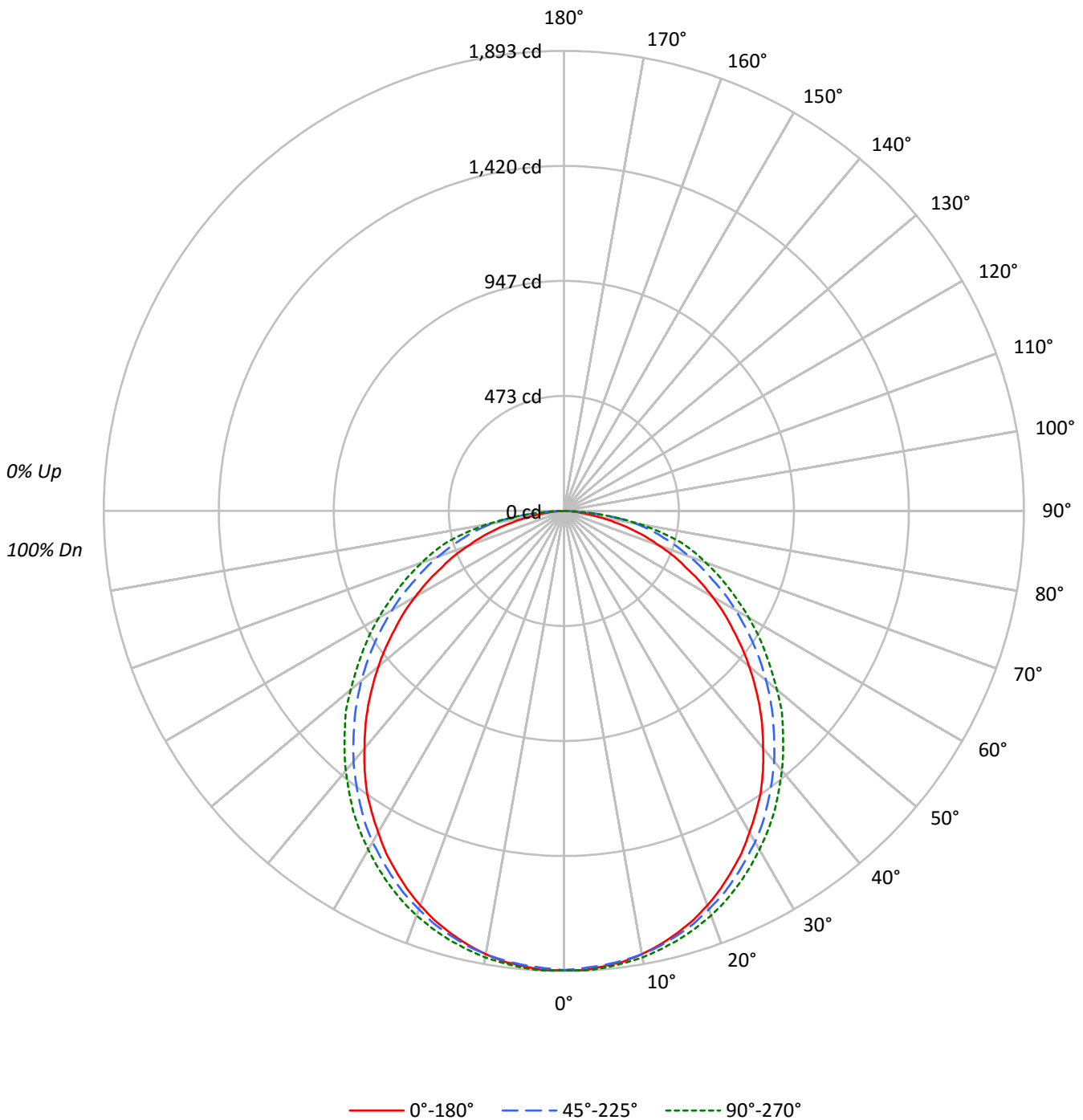
Lumens per Lamp: N/A  
Luminaire Lumens: 5378.0 lumens  
Efficiency: N/A  
Efficacy: 113.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 47.6  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	2542	2542	2542
5°	2540	2533	2549
10°	2530	2530	2549
15°	2506	2517	2544
20°	2473	2497	2537
25°	2427	2473	2521
30°	2373	2444	2500
35°	2320	2405	2480
40°	2241	2364	2451
45°	2168	2318	2425
50°	2085	2274	2396
55°	1992	2232	2372
60°	1898	2197	2367
65°	1778	2159	2382
70°	1646	2171	2446
75°	1474	2211	2584
80°	1191	2343	2528
85°	897	2056	2004



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	178.9	3.3
10°-20°	511.1	9.5
20°-30°	768.3	14.3
30°-40°	915.1	17.0
40°-50°	936.6	17.4
50°-60°	843.2	15.7
60°-70°	662.2	12.3
70°-80°	429.8	8.0
80°-90°	132.9	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°	1458.2	27.1
0°-40°	2373.3	44.1
0°-60°	4153.1	77.2
0°-90°	5378.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5378.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1889	1889	1889	1889	1889	
5°	1881	1884	1876	1886	1888	179
15°	1799	1804	1807	1823	1826	507
25°	1635	1648	1666	1693	1698	753
35°	1413	1430	1464	1500	1510	881
45°	1139	1167	1218	1264	1274	878
55°	849	887	952	1001	1011	761
65°	559	601	678	734	748	556
75°	284	338	425	483	497	300
85°	58	108	133	130	130	70
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1889.3	1889.3	1889.3	1889.3	1889.3
2.5°	1891.0	1891.0	1882.5	1891.0	1892.7
5°	1880.8	1884.2	1875.7	1885.9	1887.6
7.5°	1870.5	1870.5	1865.4	1875.7	1877.4
10°	1851.7	1853.5	1851.7	1863.7	1865.4
12.5°	1827.8	1831.2	1833.0	1844.9	1846.6
15°	1798.8	1803.9	1807.3	1822.7	1826.1
17.5°	1766.3	1771.5	1780.0	1797.1	1800.5
20°	1727.0	1733.9	1744.1	1766.3	1771.5
22.5°	1684.3	1691.2	1708.3	1728.8	1737.3
25°	1634.8	1648.5	1665.5	1692.9	1698.0
27.5°	1585.3	1597.2	1619.4	1648.5	1655.3
30°	1527.2	1546.0	1573.3	1602.3	1609.2
32.5°	1470.8	1489.6	1522.1	1552.8	1561.3
35°	1412.7	1429.8	1464.0	1499.8	1510.1
37.5°	1346.1	1368.3	1405.9	1441.8	1452.0
40°	1276.1	1303.4	1346.1	1383.7	1395.6
42.5°	1209.4	1238.5	1281.2	1322.2	1335.9
45°	1139.4	1166.7	1218.0	1264.1	1274.4
47.5°	1067.7	1098.4	1153.1	1199.2	1216.3
50°	995.9	1028.4	1086.4	1134.3	1144.5
52.5°	924.2	958.3	1019.8	1071.1	1076.2
55°	849.0	886.6	951.5	1001.0	1011.3
57.5°	780.7	813.1	883.2	934.4	946.4
60°	705.5	741.4	816.5	864.4	879.7
62.5°	633.8	671.3	749.9	797.8	811.4
65°	558.6	601.3	678.2	734.5	748.2
67.5°	493.7	534.7	616.7	671.3	685.0
70°	418.5	464.6	551.8	608.1	621.8
72.5°	353.6	401.4	488.6	543.2	563.7
75°	283.6	338.2	425.4	483.4	497.1
77.5°	215.2	278.4	367.3	411.7	411.7
80°	153.7	220.4	302.4	322.9	326.3
82.5°	100.8	165.7	223.8	222.1	222.1
85°	58.1	107.6	133.2	129.8	129.8
87.5°	22.2	44.4	47.8	47.8	46.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)