

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: P314087

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-CP250-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: P314087  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)  
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-CP250-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB 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**

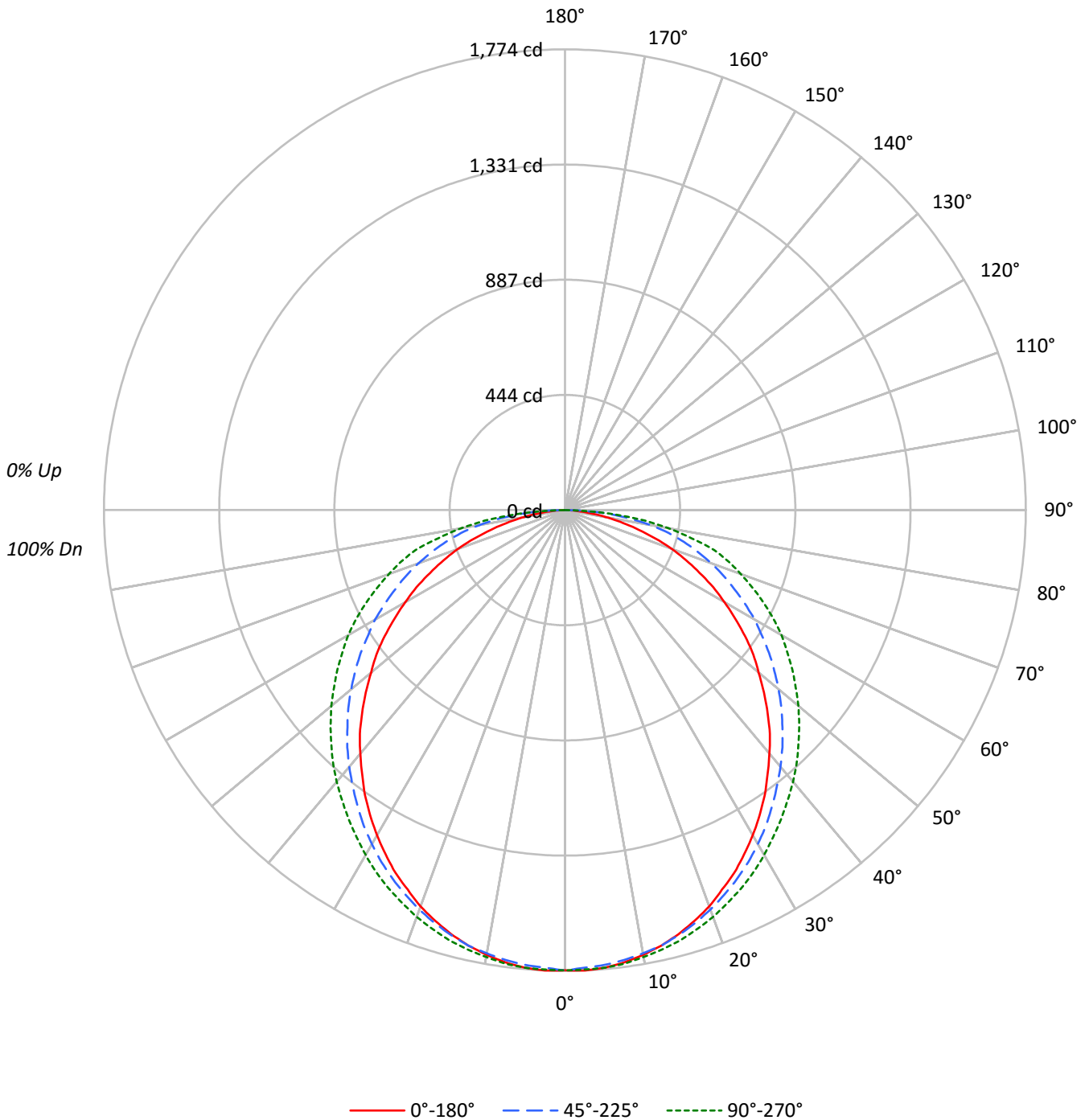
Lumens per Lamp: N/A  
Luminaire Lumens: 5374.0 lumens  
Efficiency: N/A  
Efficacy: 110.3 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 48.7  
Input Voltage (V): NR  
Input Current (A<sub>in</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	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2385	2385	2385
5°	2389	2374	2389
10°	2375	2368	2387
15°	2355	2359	2389
20°	2326	2344	2387
25°	2290	2327	2385
30°	2247	2307	2382
35°	2202	2284	2384
40°	2151	2267	2399
45°	2100	2253	2419
50°	2038	2247	2456
55°	1987	2250	2505
60°	1910	2270	2591
65°	1822	2293	2685
70°	1725	2364	2834
75°	1539	2466	3096
80°	1313	2611	3164
85°	936	2587	3027



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	167.7	3.1
10°-20°	479.6	8.9
20°-30°	724.4	13.5
30°-40°	873.1	16.2
40°-50°	916.6	17.1
50°-60°	857.5	16.0
60°-70°	708.1	13.2
70°-80°	482.5	9.0
80°-90°	164.6	3.1
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°	1371.7	25.5
0°-40°	2244.8	41.8
0°-60°	4018.8	74.8
0°-90°	5374.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5374.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1772	1772	1772	1772	1772	
5°	1769	1767	1758	1769	1769	168
15°	1690	1692	1694	1712	1715	476
25°	1542	1549	1567	1598	1606	710
35°	1341	1355	1391	1437	1451	838
45°	1104	1127	1184	1248	1271	851
55°	847	881	959	1038	1068	756
65°	572	620	720	811	843	568
75°	296	364	474	563	596	316
85°	61	120	168	189	196	76
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1772.3	1772.3	1772.3	1772.3	1772.3
2.5°	1774.1	1772.3	1763.4	1772.3	1770.5
5°	1768.7	1766.9	1758.0	1768.7	1768.7
7.5°	1756.3	1756.3	1747.3	1759.8	1761.6
10°	1738.4	1738.4	1733.1	1747.3	1747.3
12.5°	1717.0	1717.0	1717.0	1731.3	1733.1
15°	1690.3	1692.1	1693.8	1711.7	1715.2
17.5°	1658.2	1661.8	1667.1	1688.5	1692.1
20°	1624.3	1627.9	1636.8	1661.8	1667.1
22.5°	1581.5	1590.4	1602.9	1631.4	1636.8
25°	1542.3	1549.4	1567.3	1597.6	1606.5
27.5°	1494.2	1504.8	1528.0	1560.1	1572.6
30°	1446.0	1456.7	1485.2	1522.7	1533.4
32.5°	1394.3	1410.4	1440.7	1479.9	1492.4
35°	1340.8	1355.1	1390.7	1437.1	1451.4
37.5°	1282.0	1301.6	1340.8	1390.7	1408.6
40°	1224.9	1246.3	1290.9	1344.4	1365.8
42.5°	1167.9	1189.3	1239.2	1299.8	1321.2
45°	1103.7	1126.9	1183.9	1248.1	1271.3
47.5°	1039.5	1068.0	1130.4	1198.2	1223.1
50°	973.5	1005.6	1073.4	1144.7	1173.2
52.5°	914.7	945.0	1016.3	1093.0	1119.7
55°	846.9	880.8	959.3	1037.7	1068.0
57.5°	777.4	814.8	898.6	984.2	1014.5
60°	709.6	750.6	843.4	928.9	962.8
62.5°	643.7	684.7	781.0	870.1	904.0
65°	572.3	620.5	720.3	811.3	843.4
67.5°	504.6	556.3	661.5	750.6	782.7
70°	438.6	488.5	600.9	688.2	720.3
72.5°	367.3	424.4	536.7	627.6	661.5
75°	296.0	363.7	474.3	563.4	595.5
77.5°	230.0	299.5	410.1	483.2	499.2
80°	169.4	240.7	337.0	388.7	408.3
82.5°	108.8	180.1	256.8	294.2	310.2
85°	60.6	119.5	167.6	189.0	196.1
87.5°	25.0	51.7	67.8	76.7	76.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)