

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: P313315

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-HRP-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: P313315  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)  
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-HRP-CA08-W2A-U-3000K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. 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**

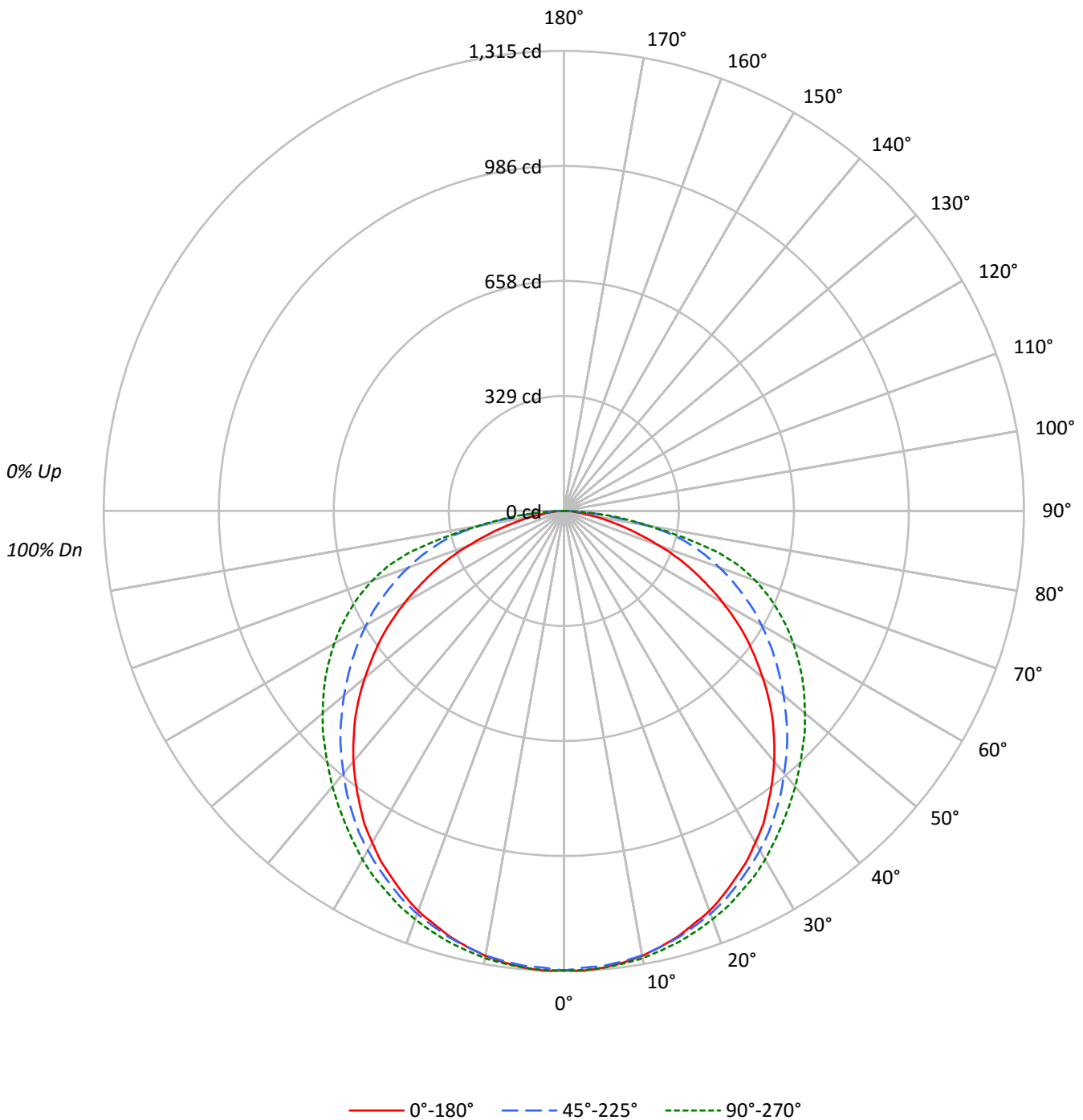
Lumens per Lamp: N/A  
Luminaire Lumens: 4048.0 lumens  
Efficiency: N/A  
Efficacy: 85.2 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 47.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	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	24	35	29	24	23

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

	0°	45°	90°
0°	1767	1767	1767
5°	1769	1762	1769
10°	1764	1762	1774
15°	1754	1759	1775
20°	1742	1754	1779
25°	1721	1746	1781
30°	1701	1740	1788
35°	1673	1731	1790
40°	1643	1720	1807
45°	1606	1719	1835
50°	1554	1717	1884
55°	1499	1729	1952
60°	1414	1756	2038
65°	1306	1797	2153
70°	1140	1860	2293
75°	925	1956	2370
80°	683	1917	1917
85°	523	1413	1596



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	124.4	3.1
10°-20°	357.3	8.8
20°-30°	543.9	13.4
30°-40°	660.4	16.3
40°-50°	697.7	17.2
50°-60°	658.4	16.3
60°-70°	547.4	13.5
70°-80°	360.2	8.9
80°-90°	98.2	2.4
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°	1025.6	25.3
0°-40°	1686.1	41.7
0°-60°	3042.2	75.2
0°-90°	4048.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4048.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1313	1313	1313	1313	1313	
5°	1310	1310	1305	1310	1310	124
15°	1259	1261	1262	1274	1274	355
25°	1159	1166	1176	1196	1200	535
35°	1018	1030	1054	1081	1090	638
45°	844	861	903	947	964	650
55°	639	666	737	807	832	569
65°	410	458	564	647	676	405
75°	178	259	376	446	456	192
85°	34	75	92	102	103	41
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1313.4	1313.4	1313.4	1313.4	1313.4
2.5°	1315.1	1313.4	1306.6	1313.4	1313.4
5°	1310.0	1310.0	1304.9	1310.0	1310.0
7.5°	1301.5	1301.5	1298.1	1304.9	1304.9
10°	1291.3	1291.3	1289.7	1298.1	1298.1
12.5°	1276.1	1277.8	1276.1	1286.3	1286.3
15°	1259.1	1260.8	1262.5	1274.4	1274.4
17.5°	1237.1	1240.5	1243.9	1257.5	1259.1
20°	1216.8	1218.5	1225.3	1240.5	1242.2
22.5°	1189.7	1194.7	1203.2	1218.5	1223.6
25°	1159.2	1165.9	1176.1	1196.4	1199.8
27.5°	1130.4	1135.4	1149.0	1171.0	1177.8
30°	1094.8	1103.2	1120.2	1142.2	1150.7
32.5°	1060.9	1069.3	1089.7	1113.4	1120.2
35°	1018.5	1030.4	1054.1	1081.2	1089.7
37.5°	977.8	989.7	1018.5	1049.0	1059.2
40°	935.5	949.0	979.5	1015.1	1028.7
42.5°	889.7	908.3	942.2	981.2	996.5
45°	844.0	860.9	903.3	947.3	964.3
47.5°	794.8	815.1	860.9	913.4	933.8
50°	742.3	767.7	820.2	877.8	899.9
52.5°	689.7	718.5	777.9	842.3	866.0
55°	638.9	666.0	737.2	806.7	832.1
57.5°	583.0	616.9	694.8	769.4	794.8
60°	525.4	562.6	652.5	730.4	757.5
62.5°	467.7	510.1	611.8	689.7	718.5
65°	410.1	457.6	564.3	647.4	676.2
67.5°	354.2	406.7	520.3	603.3	632.1
70°	289.8	355.9	472.8	554.2	583.0
72.5°	230.5	306.7	427.1	503.3	528.7
75°	177.9	259.3	376.2	445.7	455.9
77.5°	130.5	211.8	323.7	347.4	349.1
80°	88.1	169.5	247.4	244.0	247.4
82.5°	57.6	127.1	155.9	174.6	176.2
85°	33.9	74.6	91.5	101.7	103.4
87.5°	16.9	25.4	32.2	33.9	37.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)