

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: P310986

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-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: P310986  
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-L82765-CA08-W2A-U-3000K  
Description: 2'X4' TROFFER LED MODULE, RIBBED 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**

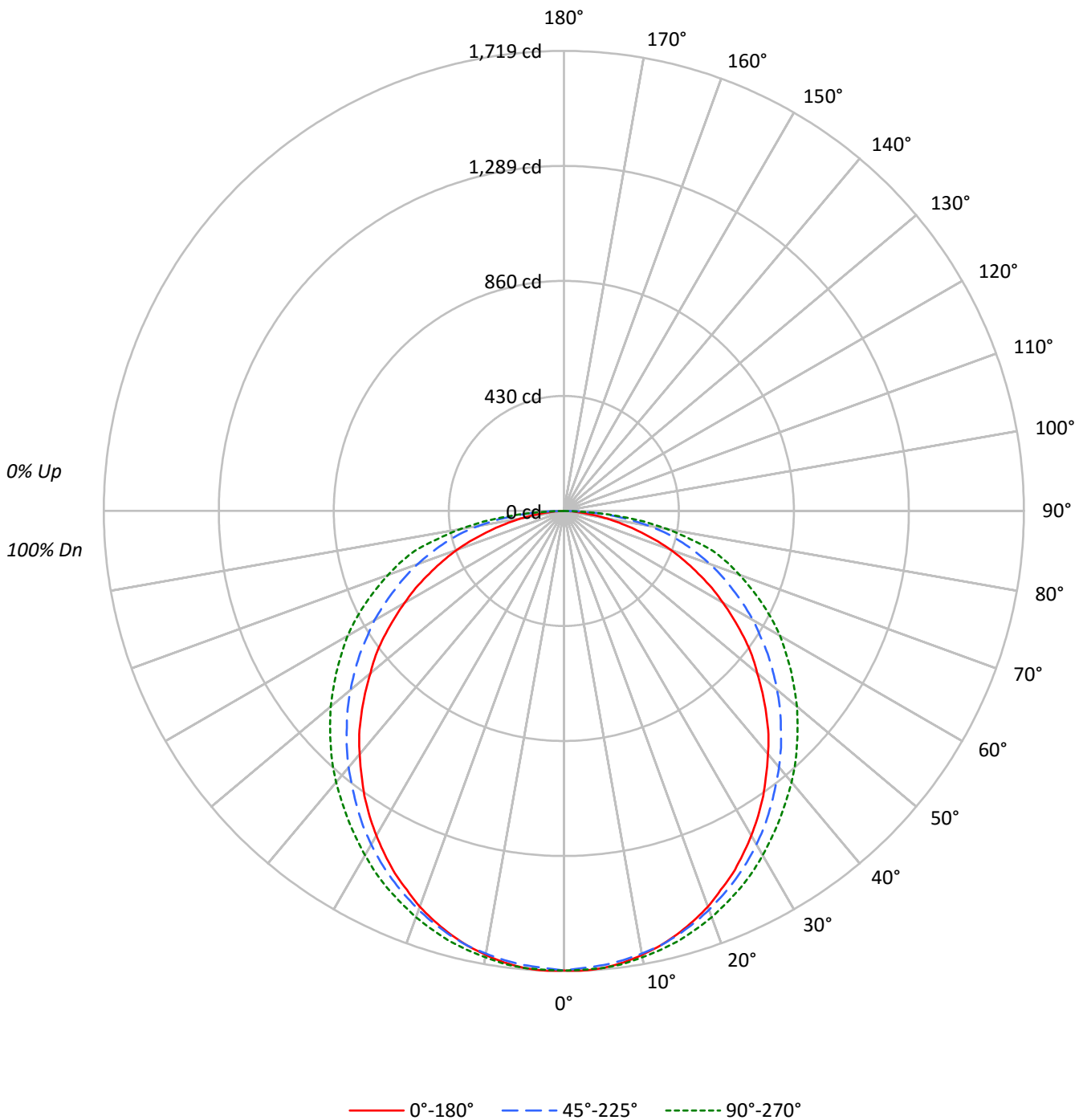
Lumens per Lamp: N/A  
Luminaire Lumens: 5207.0 lumens  
Efficiency: N/A  
Efficacy: 110.1 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 47.3  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	2310	2310	2310
5°	2315	2301	2315
10°	2301	2294	2313
15°	2281	2286	2315
20°	2253	2271	2313
25°	2219	2254	2311
30°	2177	2236	2308
35°	2134	2213	2310
40°	2085	2197	2324
45°	2035	2183	2344
50°	1975	2177	2380
55°	1925	2180	2427
60°	1850	2199	2510
65°	1766	2222	2601
70°	1672	2290	2746
75°	1491	2389	3000
80°	1272	2530	3065
85°	906	2507	2933



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	162.5	3.1
10°-20°	464.7	8.9
20°-30°	701.9	13.5
30°-40°	845.9	16.2
40°-50°	888.1	17.1
50°-60°	830.8	16.0
60°-70°	686.1	13.2
70°-80°	467.5	9.0
80°-90°	159.4	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°	1329.1	25.5
0°-40°	2175.0	41.8
0°-60°	3893.9	74.8
0°-90°	5207.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5207.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1717	1717	1717	1717	1717	
5°	1714	1712	1703	1714	1714	163
15°	1638	1640	1641	1658	1662	462
25°	1494	1501	1519	1548	1557	688
35°	1299	1313	1348	1392	1406	812
45°	1069	1092	1147	1209	1232	825
55°	821	853	929	1006	1035	732
65°	555	601	698	786	817	550
75°	287	352	460	546	577	306
85°	59	116	162	183	190	74
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1717.2	1717.2	1717.2	1717.2	1717.2
2.5°	1719.0	1717.2	1708.6	1717.2	1715.5
5°	1713.8	1712.0	1703.4	1713.8	1713.8
7.5°	1701.7	1701.7	1693.0	1705.1	1706.9
10°	1684.4	1684.4	1679.2	1693.0	1693.0
12.5°	1663.7	1663.7	1663.7	1677.5	1679.2
15°	1637.8	1639.5	1641.2	1658.5	1661.9
17.5°	1606.7	1610.1	1615.3	1636.0	1639.5
20°	1573.8	1577.3	1585.9	1610.1	1615.3
22.5°	1532.4	1541.0	1553.1	1580.7	1585.9
25°	1494.4	1501.3	1518.6	1547.9	1556.6
27.5°	1447.7	1458.1	1480.5	1511.6	1523.7
30°	1401.1	1411.4	1439.1	1475.4	1485.7
32.5°	1351.0	1366.5	1395.9	1433.9	1446.0
35°	1299.1	1313.0	1347.5	1392.4	1406.3
37.5°	1242.1	1261.1	1299.1	1347.5	1364.8
40°	1186.9	1207.6	1250.8	1302.6	1323.3
42.5°	1131.6	1152.3	1200.7	1259.4	1280.1
45°	1069.4	1091.8	1147.1	1209.3	1231.8
47.5°	1007.2	1034.8	1095.3	1160.9	1185.1
50°	943.3	974.4	1040.0	1109.1	1136.8
52.5°	886.3	915.6	984.7	1059.0	1084.9
55°	820.6	853.4	929.4	1005.5	1034.8
57.5°	753.2	789.5	870.7	953.6	983.0
60°	687.6	727.3	817.1	900.1	932.9
62.5°	623.7	663.4	756.7	843.1	875.9
65°	554.6	601.2	697.9	786.1	817.1
67.5°	488.9	539.0	640.9	727.3	758.4
70°	425.0	473.4	582.2	666.8	697.9
72.5°	355.9	411.2	520.0	608.1	640.9
75°	286.8	352.4	459.5	545.9	577.0
77.5°	222.9	290.2	397.3	468.2	483.7
80°	164.1	233.2	326.5	376.6	395.6
82.5°	105.4	174.5	248.8	285.1	300.6
85°	58.7	115.7	162.4	183.1	190.0
87.5°	24.2	50.1	65.6	74.3	74.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)