

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: P311700

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-S-CP250-W2A-U-4500K**

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: P311700  
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-L82765-S-CP250-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET  
Light Source: (336) 4500K 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**

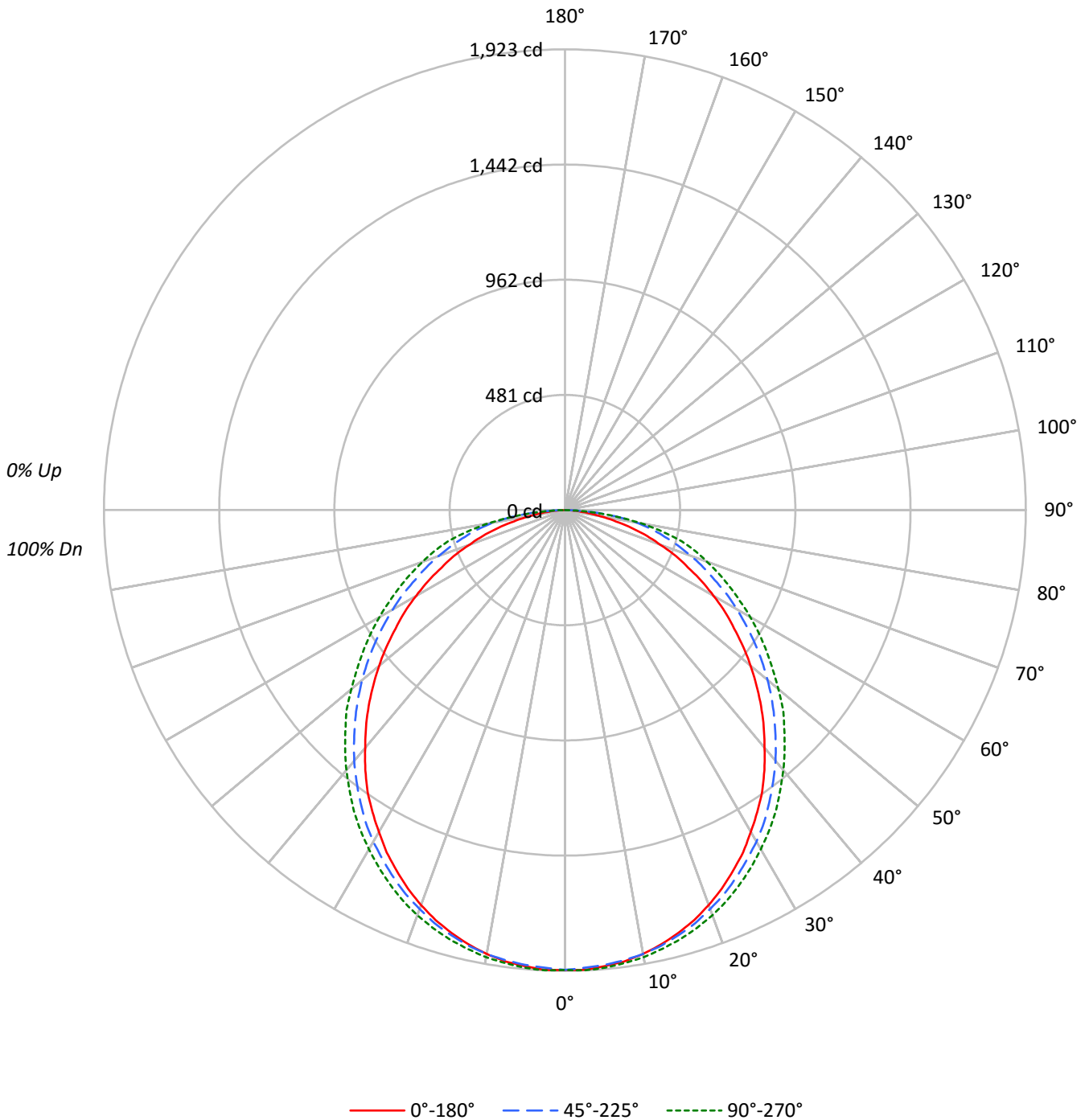
Lumens per Lamp: N/A  
Luminaire Lumens: 5463.0 lumens  
Efficiency: N/A  
Efficacy: 112.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 48.5  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	2582	2582	2582
5°	2580	2573	2590
10°	2570	2570	2589
15°	2545	2557	2584
20°	2512	2537	2577
25°	2465	2512	2561
30°	2410	2483	2540
35°	2357	2443	2520
40°	2277	2402	2490
45°	2202	2354	2463
50°	2118	2310	2434
55°	2023	2267	2410
60°	1929	2232	2405
65°	1806	2193	2420
70°	1672	2205	2485
75°	1498	2246	2625
80°	1210	2380	2568
85°	911	2089	2036



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	181.7	3.3
10°-20°	519.2	9.5
20°-30°	780.4	14.3
30°-40°	929.6	17.0
40°-50°	951.4	17.4
50°-60°	856.5	15.7
60°-70°	672.7	12.3
70°-80°	436.6	8.0
80°-90°	135.0	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°	1481.3	27.1
0°-40°	2410.8	44.1
0°-60°	4218.8	77.2
0°-90°	5463.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5463.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1919	1919	1919	1919	1919	
5°	1910	1914	1905	1916	1918	182
15°	1827	1832	1836	1852	1855	515
25°	1661	1674	1692	1720	1725	765
35°	1435	1452	1487	1524	1534	895
45°	1157	1185	1237	1284	1294	892
55°	862	901	966	1017	1027	773
65°	567	611	689	746	760	565
75°	288	344	432	491	505	305
85°	59	109	135	132	132	71
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1919.2	1919.2	1919.2	1919.2	1919.2
2.5°	1920.9	1920.9	1912.2	1920.9	1922.7
5°	1910.5	1914.0	1905.3	1915.7	1917.5
7.5°	1900.1	1900.1	1894.9	1905.3	1907.0
10°	1881.0	1882.7	1881.0	1893.2	1894.9
12.5°	1856.7	1860.2	1861.9	1874.1	1875.8
15°	1827.2	1832.4	1835.9	1851.5	1855.0
17.5°	1794.2	1799.5	1808.1	1825.5	1829.0
20°	1754.3	1761.3	1771.7	1794.2	1799.5
22.5°	1711.0	1717.9	1735.3	1756.1	1764.8
25°	1660.6	1674.5	1691.9	1719.6	1724.8
27.5°	1610.3	1622.5	1645.0	1674.5	1681.5
30°	1551.3	1570.4	1598.2	1627.7	1634.6
32.5°	1494.1	1513.1	1546.1	1577.3	1586.0
35°	1435.1	1452.4	1487.1	1523.6	1534.0
37.5°	1367.4	1389.9	1428.1	1464.6	1475.0
40°	1296.2	1324.0	1367.4	1405.6	1417.7
42.5°	1228.6	1258.1	1301.4	1343.1	1357.0
45°	1157.4	1185.2	1237.2	1284.1	1294.5
47.5°	1084.5	1115.8	1171.3	1218.1	1235.5
50°	1011.7	1044.6	1103.6	1152.2	1162.6
52.5°	938.8	973.5	1035.9	1088.0	1093.2
55°	862.4	900.6	966.5	1016.9	1027.3
57.5°	793.0	826.0	897.1	949.2	961.3
60°	716.7	753.1	829.4	878.0	893.7
62.5°	643.8	682.0	761.8	810.4	824.2
65°	567.4	610.8	688.9	746.2	760.0
67.5°	501.5	543.1	626.4	682.0	695.8
70°	425.1	472.0	560.5	617.7	631.6
72.5°	359.2	407.8	496.3	551.8	572.6
75°	288.1	343.6	432.1	491.1	505.0
77.5°	218.6	282.8	373.1	418.2	418.2
80°	156.2	223.8	307.1	328.0	331.4
82.5°	102.4	168.3	227.3	225.6	225.6
85°	59.0	109.3	135.3	131.9	131.9
87.5°	22.6	45.1	48.6	48.6	46.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)