

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: P311648

Luminaire Tested: **24FCZ2-55HE-UNV-L82765-S-CP187-W2A-U-5500K**

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: P311648
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: 24FCZ2-55HE-UNV-L82765-S-CP187-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 5500K 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: 5188.0 lumens
Efficiency: N/A
Efficacy: 117.1 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

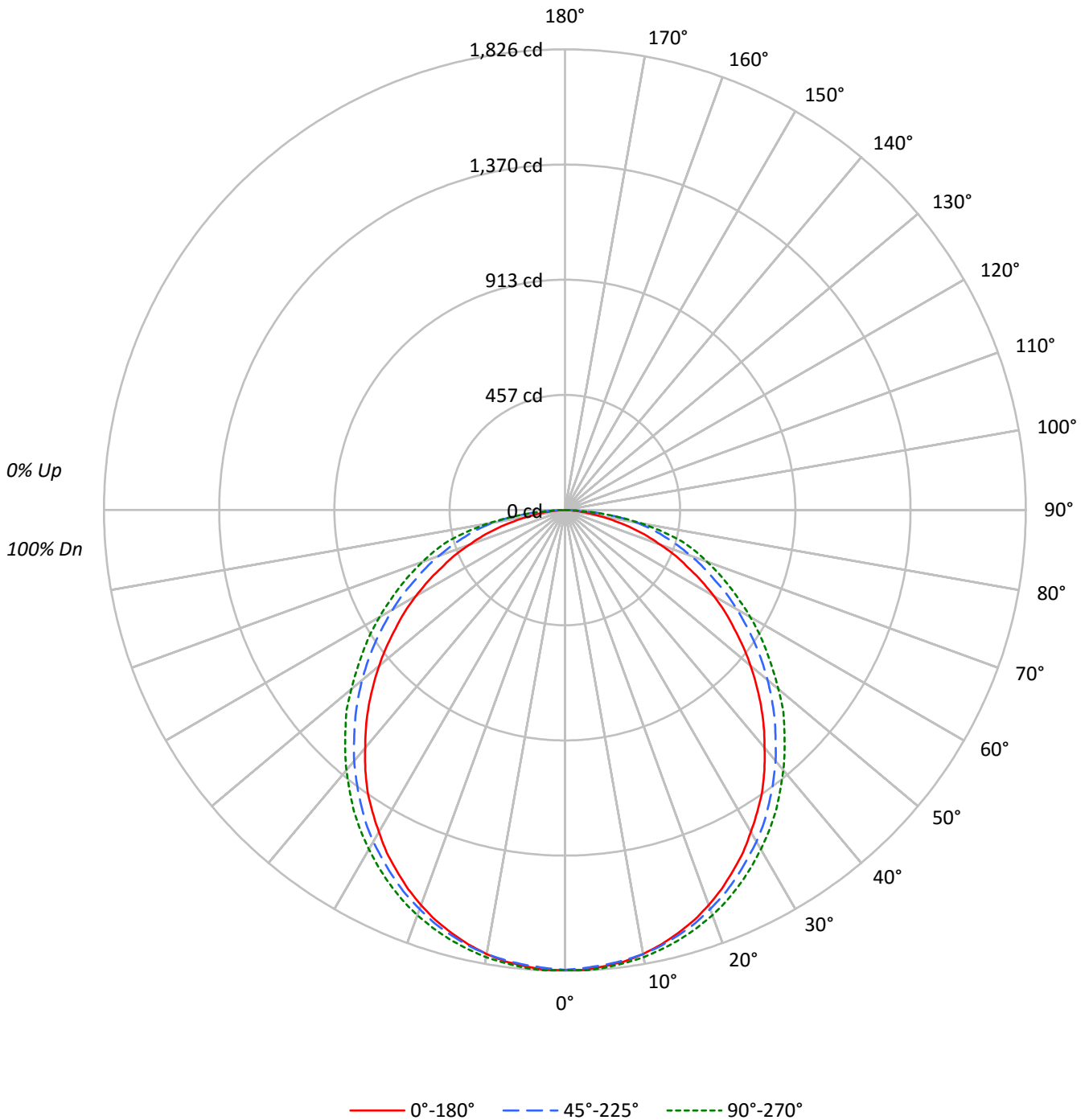
Input Watts (W): 44.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2452	2452	2452
5°	2450	2444	2459
10°	2441	2441	2459
15°	2417	2429	2454
20°	2385	2409	2447
25°	2341	2385	2432
30°	2289	2358	2412
35°	2238	2320	2393
40°	2162	2281	2365
45°	2091	2236	2339
50°	2011	2194	2311
55°	1921	2153	2289
60°	1831	2120	2284
65°	1716	2083	2298
70°	1588	2094	2360
75°	1422	2133	2493
80°	1149	2260	2438
85°	865	1984	1933



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.5	3.3
10°-20°	493.0	9.5
20°-30°	741.1	14.3
30°-40°	882.8	17.0
40°-50°	903.5	17.4
50°-60°	813.4	15.7
60°-70°	638.8	12.3
70°-80°	414.6	8.0
80°-90°	128.2	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°	1406.7	27.1
0°-40°	2289.5	44.1
0°-60°	4006.4	77.2
0°-90°	5188.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5188.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1823	1823	1823	1823	1823	
5°	1814	1818	1809	1819	1821	172
15°	1735	1740	1744	1758	1762	489
25°	1577	1590	1607	1633	1638	726
35°	1363	1379	1412	1447	1457	850
45°	1099	1126	1175	1219	1229	847
55°	819	855	918	966	976	734
65°	539	580	654	709	722	536
75°	274	326	410	466	480	289
85°	56	104	128	125	125	68
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1822.6	1822.6	1822.6	1822.6	1822.6
2.5°	1824.2	1824.2	1816.0	1824.2	1825.9
5°	1814.3	1817.6	1809.4	1819.3	1820.9
7.5°	1804.5	1804.5	1799.5	1809.4	1811.0
10°	1786.3	1788.0	1786.3	1797.9	1799.5
12.5°	1763.3	1766.5	1768.2	1779.7	1781.4
15°	1735.2	1740.2	1743.5	1758.3	1761.6
17.5°	1703.9	1708.9	1717.1	1733.6	1736.9
20°	1666.0	1672.6	1682.5	1703.9	1708.9
22.5°	1624.8	1631.4	1647.9	1667.7	1675.9
25°	1577.0	1590.2	1606.7	1633.1	1638.0
27.5°	1529.3	1540.8	1562.2	1590.2	1596.8
30°	1473.2	1491.4	1517.7	1545.7	1552.3
32.5°	1418.8	1437.0	1468.3	1497.9	1506.2
35°	1362.8	1379.3	1412.3	1446.9	1456.7
37.5°	1298.5	1320.0	1356.2	1390.8	1400.7
40°	1231.0	1257.3	1298.5	1334.8	1346.3
42.5°	1166.7	1194.7	1235.9	1275.5	1288.7
45°	1099.1	1125.5	1175.0	1219.4	1229.3
47.5°	1029.9	1059.6	1112.3	1156.8	1173.3
50°	960.7	992.0	1048.1	1094.2	1104.1
52.5°	891.5	924.5	983.8	1033.2	1038.2
55°	819.0	855.3	917.9	965.7	975.6
57.5°	753.1	784.4	852.0	901.4	912.9
60°	680.6	715.2	787.7	833.8	848.7
62.5°	611.4	647.6	723.4	769.6	782.8
65°	538.9	580.1	654.2	708.6	721.8
67.5°	476.2	515.8	594.9	647.6	660.8
70°	403.7	448.2	532.3	586.7	599.8
72.5°	341.1	387.3	471.3	524.0	543.8
75°	273.6	326.3	410.3	466.4	479.5
77.5°	207.6	268.6	354.3	397.1	397.1
80°	148.3	212.6	291.7	311.5	314.7
82.5°	97.2	159.8	215.9	214.2	214.2
85°	56.0	103.8	128.5	125.2	125.2
87.5°	21.4	42.8	46.1	46.1	44.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)