

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: P311646

Luminaire Tested: **24FCZ2-55HE-UNV-L82765-S-CP187-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: P311646
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-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" 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: 5068.0 lumens
Efficiency: N/A
Efficacy: 115.4 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

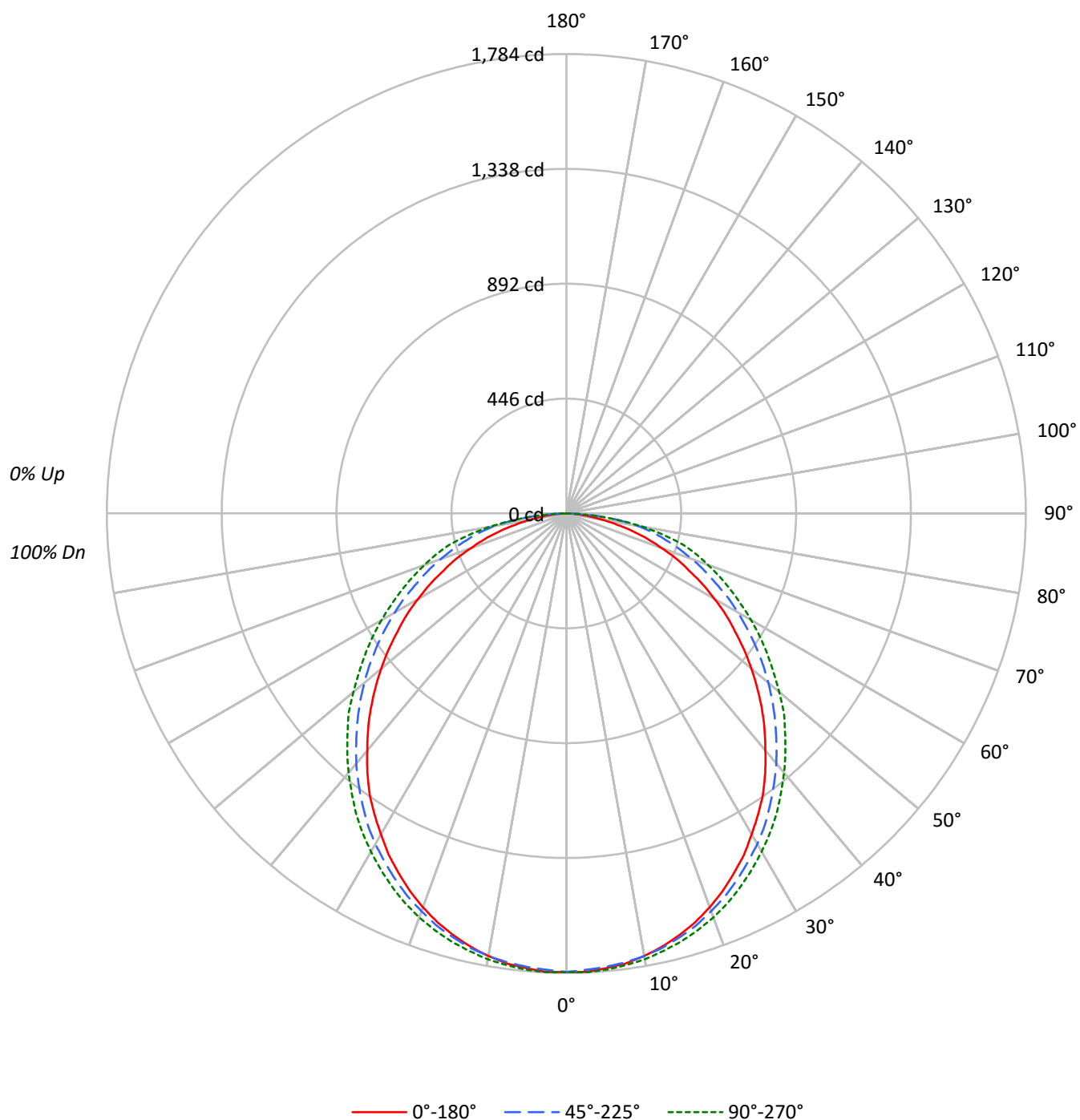
Input Watts (W): 43.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	99	95	106	101	97	93	97	93	90		93	90	88		83
2	98	90	83	77	96	88	81	76	84	79	74		81	76	72		69
3	89	79	70	64	87	77	69	63	74	67	62		71	66	61		58
4	82	70	61	54	80	68	60	54	66	59	53		63	57	52		49
5	75	62	53	46	73	61	53	46	59	51	46		57	50	45		42
6	70	56	47	40	68	55	47	40	53	46	40		52	45	40		37
7	64	51	42	36	63	50	42	36	48	41	35		47	40	35		33
8	60	46	38	32	58	46	37	32	44	37	32		43	36	31		29
9	56	43	34	29	55	42	34	29	41	34	28		40	33	28		26
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2396	2396	2396
5°	2394	2387	2402
10°	2384	2384	2402
15°	2361	2372	2397
20°	2330	2353	2390
25°	2287	2330	2375
30°	2236	2303	2356
35°	2187	2266	2337
40°	2112	2228	2310
45°	2043	2184	2285
50°	1964	2143	2258
55°	1877	2103	2236
60°	1789	2071	2231
65°	1676	2035	2245
70°	1552	2046	2305
75°	1389	2084	2435
80°	1123	2208	2383
85°	844	1939	1888



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	168.6	3.3
10°-20°	481.6	9.5
20°-30°	724.0	14.3
30°-40°	862.4	17.0
40°-50°	882.6	17.4
50°-60°	794.6	15.7
60°-70°	624.0	12.3
70°-80°	405.0	8.0
80°-90°	125.3	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°	1374.1	27.1
0°-40°	2236.5	44.1
0°-60°	3913.7	77.2
0°-90°	5068.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5068.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1780	1780	1780	1780	1780	
5°	1772	1776	1768	1777	1779	168
15°	1695	1700	1703	1718	1721	478
25°	1541	1553	1570	1595	1600	710
35°	1331	1347	1380	1413	1423	831
45°	1074	1100	1148	1191	1201	828
55°	800	836	897	943	953	717
65°	526	567	639	692	705	524
75°	267	319	401	456	468	283
85°	55	101	126	122	122	66
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1780.4	1780.4	1780.4	1780.4	1780.4
2.5°	1782.0	1782.0	1774.0	1782.0	1783.6
5°	1772.4	1775.6	1767.5	1777.2	1778.8
7.5°	1762.7	1762.7	1757.9	1767.5	1769.2
10°	1745.0	1746.6	1745.0	1756.3	1757.9
12.5°	1722.5	1725.7	1727.3	1738.6	1740.2
15°	1695.1	1699.9	1703.2	1717.6	1720.9
17.5°	1664.5	1669.3	1677.4	1693.5	1696.7
20°	1627.5	1633.9	1643.6	1664.5	1669.3
22.5°	1587.2	1593.7	1609.8	1629.1	1637.2
25°	1540.6	1553.4	1569.5	1595.3	1600.1
27.5°	1493.9	1505.1	1526.1	1553.4	1559.9
30°	1439.1	1456.9	1482.6	1510.0	1516.4
32.5°	1386.0	1403.7	1434.3	1463.3	1471.3
35°	1331.3	1347.4	1379.6	1413.4	1423.0
37.5°	1268.5	1289.4	1324.9	1358.7	1368.3
40°	1202.5	1228.3	1268.5	1303.9	1315.2
42.5°	1139.7	1167.1	1207.3	1246.0	1258.9
45°	1073.7	1099.5	1147.8	1191.2	1200.9
47.5°	1006.1	1035.1	1086.6	1130.1	1146.2
50°	938.5	969.1	1023.8	1068.9	1078.6
52.5°	870.9	903.1	961.0	1009.3	1014.2
55°	800.1	835.5	896.6	943.3	953.0
57.5°	735.7	766.3	832.3	880.6	891.8
60°	664.8	698.6	769.5	814.6	829.0
62.5°	597.2	632.6	706.7	751.8	764.6
65°	526.4	566.6	639.1	692.2	705.1
67.5°	465.2	503.9	581.1	632.6	645.5
70°	394.4	437.9	520.0	573.1	586.0
72.5°	333.2	378.3	460.4	511.9	531.2
75°	267.2	318.7	400.8	455.6	468.4
77.5°	202.8	262.4	346.1	388.0	388.0
80°	144.9	207.7	284.9	304.2	307.5
82.5°	95.0	156.1	210.9	209.3	209.3
85°	54.7	101.4	125.6	122.3	122.3
87.5°	20.9	41.9	45.1	45.1	43.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)