

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: P314433

Luminaire Tested: **24FCZ2-55HE-UNV-L83050-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: P314433
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-L83050-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: 5288.0 lumens
Efficiency: N/A
Efficacy: 117.0 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

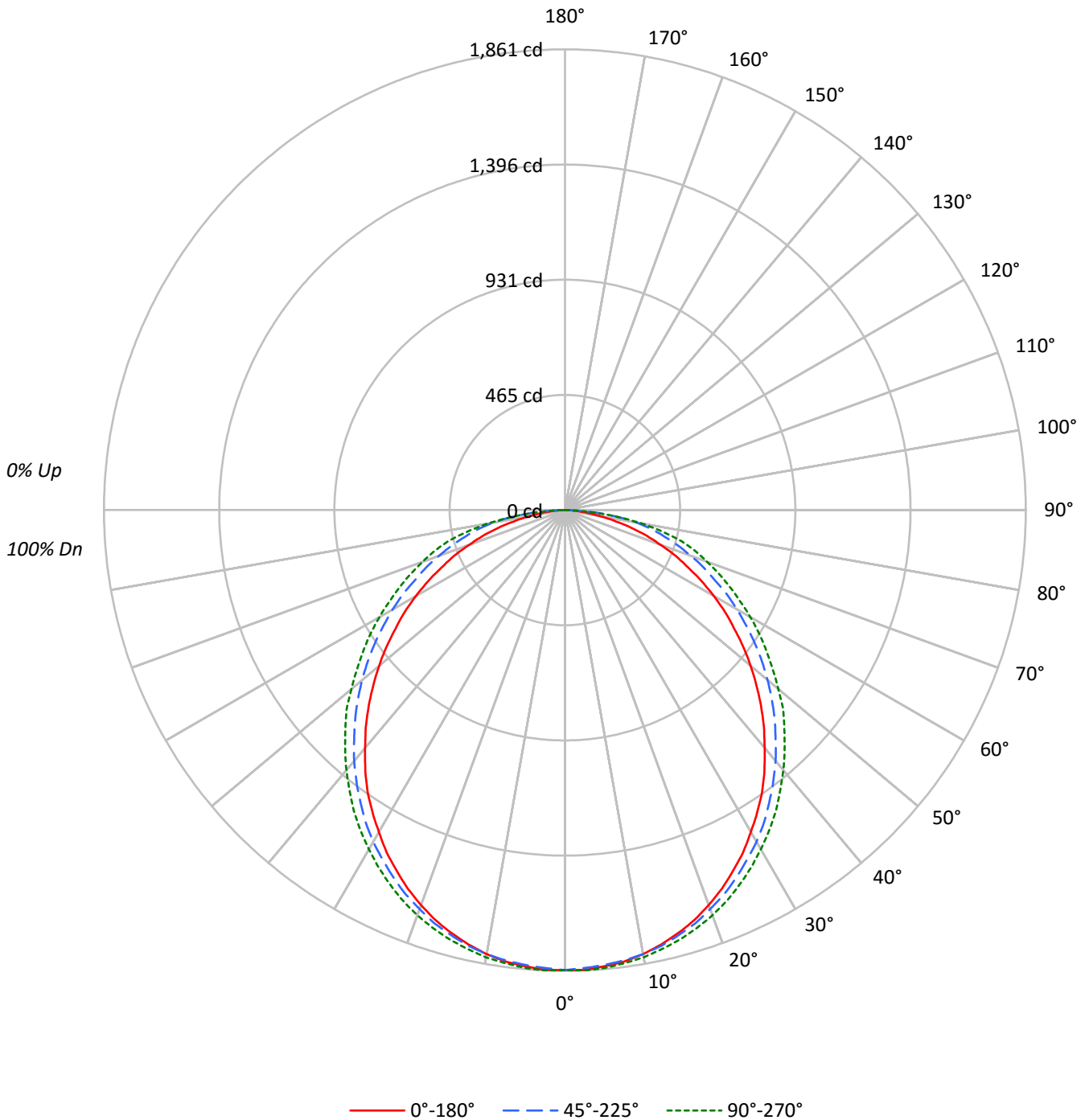
Input Watts (W): 45.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2500	2500	2500
5°	2498	2491	2507
10°	2488	2488	2506
15°	2464	2475	2501
20°	2431	2455	2494
25°	2386	2431	2479
30°	2333	2403	2458
35°	2282	2364	2439
40°	2204	2325	2410
45°	2132	2279	2384
50°	2050	2236	2356
55°	1958	2195	2333
60°	1867	2161	2328
65°	1749	2123	2342
70°	1619	2134	2405
75°	1449	2174	2541
80°	1172	2304	2486
85°	881	2022	1971



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	175.9	3.3
10°-20°	502.5	9.5
20°-30°	755.4	14.3
30°-40°	899.8	17.0
40°-50°	920.9	17.4
50°-60°	829.1	15.7
60°-70°	651.1	12.3
70°-80°	422.6	8.0
80°-90°	130.7	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°	1433.8	27.1
0°-40°	2333.6	44.1
0°-60°	4083.6	77.2
0°-90°	5288.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5288.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1858	1858	1858	1858	1858	
5°	1849	1853	1844	1854	1856	176
15°	1769	1774	1777	1792	1796	499
25°	1607	1621	1638	1664	1670	740
35°	1389	1406	1440	1475	1485	867
45°	1120	1147	1198	1243	1253	864
55°	835	872	936	984	994	748
65°	549	591	667	722	736	547
75°	279	333	418	475	489	295
85°	57	106	131	128	128	69
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1857.7	1857.7	1857.7	1857.7	1857.7
2.5°	1859.4	1859.4	1851.0	1859.4	1861.1
5°	1849.3	1852.7	1844.3	1854.3	1856.0
7.5°	1839.2	1839.2	1834.2	1844.3	1846.0
10°	1820.8	1822.4	1820.8	1832.5	1834.2
12.5°	1797.2	1800.6	1802.3	1814.0	1815.7
15°	1768.7	1773.7	1777.1	1792.2	1795.6
17.5°	1736.8	1741.8	1750.2	1767.0	1770.4
20°	1698.1	1704.9	1714.9	1736.8	1741.8
22.5°	1656.1	1662.9	1679.7	1699.8	1708.2
25°	1607.4	1620.9	1637.7	1664.5	1669.6
27.5°	1558.7	1570.5	1592.3	1620.9	1627.6
30°	1501.6	1520.1	1547.0	1575.5	1582.2
32.5°	1446.2	1464.7	1496.6	1526.8	1535.2
35°	1389.1	1405.9	1439.5	1474.7	1484.8
37.5°	1323.6	1345.4	1382.4	1417.6	1427.7
40°	1254.7	1281.6	1323.6	1360.5	1372.3
42.5°	1189.2	1217.8	1259.7	1300.1	1313.5
45°	1120.3	1147.2	1197.6	1243.0	1253.0
47.5°	1049.8	1080.0	1133.8	1179.1	1195.9
50°	979.2	1011.2	1068.3	1115.3	1125.4
52.5°	908.7	942.3	1002.8	1053.1	1058.2
55°	834.8	871.7	935.6	984.3	994.4
57.5°	767.6	799.5	868.4	918.8	930.5
60°	693.7	729.0	802.9	849.9	865.0
62.5°	623.2	660.1	737.4	784.4	797.8
65°	549.3	591.2	666.8	722.3	735.7
67.5°	485.4	525.7	606.4	660.1	673.5
70°	411.5	456.9	542.5	598.0	611.4
72.5°	347.7	394.7	480.4	534.1	554.3
75°	278.8	332.6	418.2	475.3	488.8
77.5°	211.6	273.8	361.1	404.8	404.8
80°	151.2	216.7	297.3	317.5	320.8
82.5°	99.1	162.9	220.0	218.4	218.4
85°	57.1	105.8	131.0	127.7	127.7
87.5°	21.8	43.7	47.0	47.0	45.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)