

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: P311616

Luminaire Tested: **24FCZ2-55HE-UNV-L82765-S-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: P311616
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-CA08-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH 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: 5034.0 lumens
Efficiency: N/A
Efficacy: 117.6 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

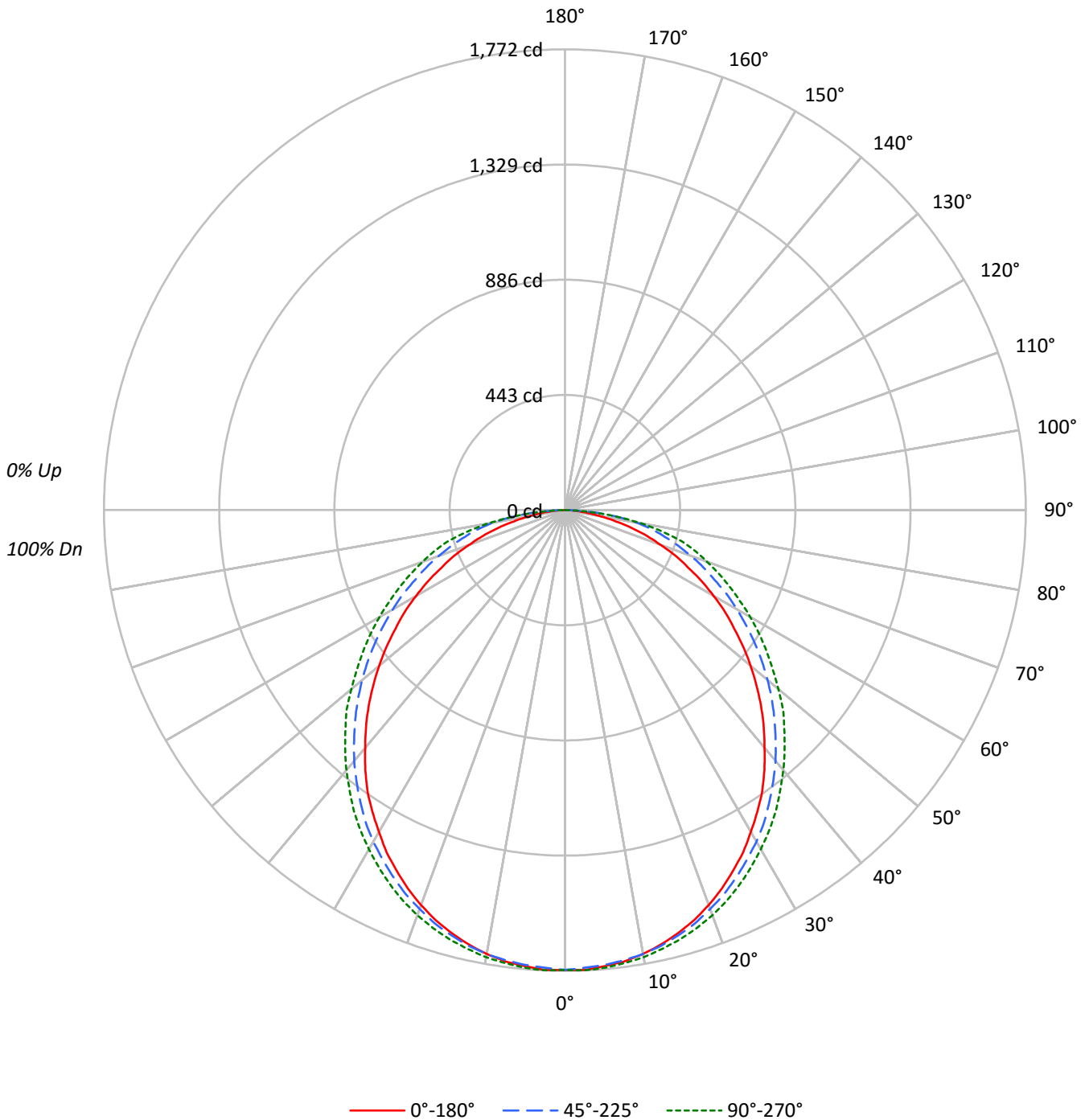
Input Watts (W): 42.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2379	2379	2379
5°	2378	2371	2386
10°	2368	2368	2386
15°	2345	2356	2381
20°	2315	2338	2374
25°	2272	2314	2360
30°	2221	2288	2340
35°	2172	2251	2322
40°	2098	2213	2295
45°	2029	2169	2270
50°	1951	2129	2242
55°	1864	2089	2221
60°	1777	2057	2216
65°	1665	2021	2230
70°	1541	2032	2290
75°	1380	2070	2419
80°	1115	2193	2366
85°	840	1925	1876



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	167.4	3.3
10°-20°	478.4	9.5
20°-30°	719.1	14.3
30°-40°	856.6	17.0
40°-50°	876.7	17.4
50°-60°	789.3	15.7
60°-70°	619.8	12.3
70°-80°	402.3	8.0
80°-90°	124.4	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°	1364.9	27.1
0°-40°	2221.5	44.1
0°-60°	3887.5	77.2
0°-90°	5034.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5034.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1768	1768	1768	1768	1768	
5°	1760	1764	1756	1765	1767	167
15°	1684	1688	1692	1706	1709	475
25°	1530	1543	1559	1585	1589	705
35°	1322	1338	1370	1404	1414	825
45°	1066	1092	1140	1183	1193	822
55°	795	830	891	937	947	712
65°	523	563	635	688	700	521
75°	265	317	398	452	465	281
85°	54	101	125	122	122	66
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1768.5	1768.5	1768.5	1768.5	1768.5
2.5°	1770.1	1770.1	1762.1	1770.1	1771.7
5°	1760.5	1763.7	1755.7	1765.3	1766.9
7.5°	1750.9	1750.9	1746.1	1755.7	1757.3
10°	1733.3	1734.9	1733.3	1744.5	1746.1
12.5°	1710.9	1714.1	1715.7	1726.9	1728.5
15°	1683.7	1688.5	1691.7	1706.1	1709.3
17.5°	1653.4	1658.1	1666.1	1682.1	1685.3
20°	1616.6	1623.0	1632.6	1653.4	1658.1
22.5°	1576.6	1583.0	1599.0	1618.2	1626.2
25°	1530.2	1543.0	1559.0	1584.6	1589.4
27.5°	1483.9	1495.1	1515.8	1543.0	1549.4
30°	1429.5	1447.1	1472.7	1499.8	1506.2
32.5°	1376.7	1394.3	1424.7	1453.5	1461.5
35°	1322.4	1338.4	1370.3	1403.9	1413.5
37.5°	1260.0	1280.8	1316.0	1349.5	1359.1
40°	1194.4	1220.0	1260.0	1295.2	1306.4
42.5°	1132.1	1159.3	1199.2	1237.6	1250.4
45°	1066.5	1092.1	1140.1	1183.2	1192.8
47.5°	999.4	1028.1	1079.3	1122.5	1138.5
50°	932.2	962.6	1017.0	1061.7	1071.3
52.5°	865.1	897.0	954.6	1002.6	1007.4
55°	794.7	829.9	890.6	937.0	946.6
57.5°	730.7	761.1	826.7	874.6	885.8
60°	660.4	694.0	764.3	809.1	823.5
62.5°	593.2	628.4	702.0	746.7	759.5
65°	522.9	562.8	634.8	687.6	700.4
67.5°	462.1	500.5	577.2	628.4	641.2
70°	391.8	434.9	516.5	569.2	582.0
72.5°	331.0	375.8	457.3	508.5	527.7
75°	265.4	316.6	398.1	452.5	465.3
77.5°	201.5	260.6	343.8	385.4	385.4
80°	143.9	206.3	283.0	302.2	305.4
82.5°	94.3	155.1	209.5	207.9	207.9
85°	54.4	100.7	124.7	121.5	121.5
87.5°	20.8	41.6	44.8	44.8	43.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)