

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: P314393

Luminaire Tested: **24FCZ2-50-UNV-L83050-S-CA08-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: P314393
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: 24FCZ2-50-UNV-L83050-S-CA08-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 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: 5094.0 lumens
Efficiency: N/A
Efficacy: 113.7 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

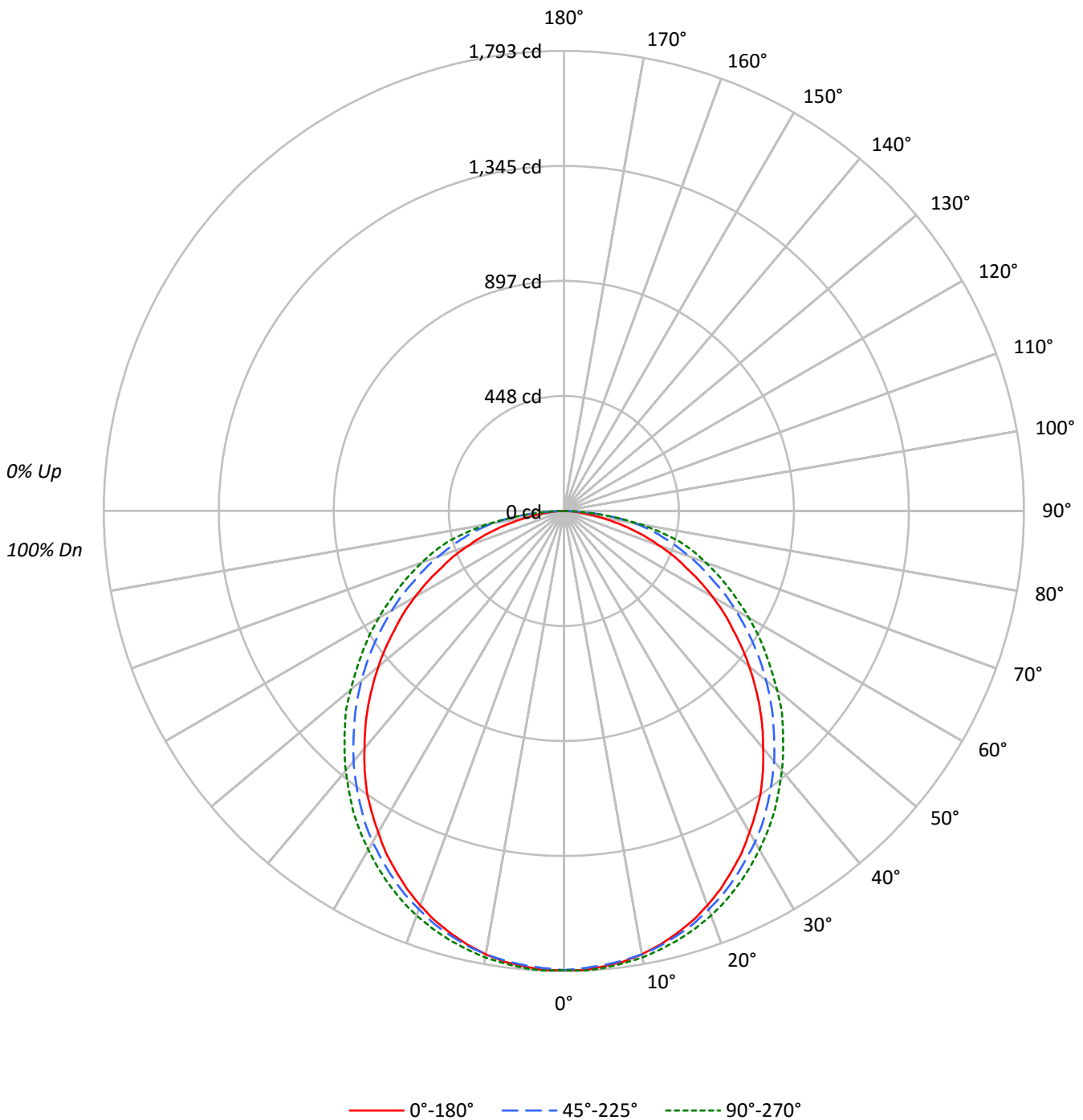
Input Watts (W): 44.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2408	2408	2408
5°	2406	2400	2415
10°	2396	2396	2414
15°	2373	2385	2409
20°	2342	2365	2402
25°	2299	2342	2388
30°	2247	2315	2368
35°	2198	2278	2349
40°	2123	2239	2322
45°	2054	2195	2297
50°	1975	2154	2269
55°	1886	2114	2247
60°	1798	2081	2242
65°	1684	2045	2256
70°	1559	2056	2317
75°	1396	2095	2448
80°	1128	2219	2394
85°	849	1948	1899



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	169.4	3.3
10°-20°	484.1	9.5
20°-30°	727.7	14.3
30°-40°	866.8	17.0
40°-50°	887.1	17.4
50°-60°	798.7	15.7
60°-70°	627.2	12.3
70°-80°	407.1	8.0
80°-90°	125.9	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°	1381.2	27.1
0°-40°	2248.0	44.1
0°-60°	3933.8	77.2
0°-90°	5094.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5094.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1790	1790	1790	1790	1790	
5°	1782	1785	1777	1786	1788	169
15°	1704	1709	1712	1726	1730	480
25°	1548	1561	1578	1604	1608	713
35°	1338	1354	1387	1421	1430	835
45°	1079	1105	1154	1197	1207	832
55°	804	840	901	948	958	721
65°	529	570	642	696	709	527
75°	269	320	403	458	471	284
85°	55	102	126	123	123	66
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1789.6	1789.6	1789.6	1789.6	1789.6
2.5°	1791.2	1791.2	1783.1	1791.2	1792.8
5°	1781.5	1784.7	1776.6	1786.3	1787.9
7.5°	1771.8	1771.8	1766.9	1776.6	1778.2
10°	1754.0	1755.6	1754.0	1765.3	1766.9
12.5°	1731.3	1734.5	1736.2	1747.5	1749.1
15°	1703.8	1708.7	1711.9	1726.5	1729.7
17.5°	1673.1	1677.9	1686.0	1702.2	1705.4
20°	1635.8	1642.3	1652.0	1673.1	1677.9
22.5°	1595.4	1601.9	1618.0	1637.5	1645.5
25°	1548.5	1561.4	1577.6	1603.5	1608.3
27.5°	1501.5	1512.9	1533.9	1561.4	1567.9
30°	1446.5	1464.3	1490.2	1517.7	1524.2
32.5°	1393.1	1410.9	1441.7	1470.8	1478.9
35°	1338.1	1354.3	1386.7	1420.6	1430.3
37.5°	1275.0	1296.1	1331.6	1365.6	1375.3
40°	1208.7	1234.6	1275.0	1310.6	1321.9
42.5°	1145.6	1173.1	1213.5	1252.4	1265.3
45°	1079.2	1105.1	1153.7	1197.4	1207.1
47.5°	1011.3	1040.4	1092.2	1135.9	1152.0
50°	943.3	974.1	1029.1	1074.4	1084.1
52.5°	875.4	907.7	966.0	1014.5	1019.4
55°	804.2	839.8	901.2	948.2	957.9
57.5°	739.4	770.2	836.5	885.1	896.4
60°	668.3	702.2	773.4	818.7	833.3
62.5°	600.3	635.9	710.3	755.6	768.6
65°	529.1	569.6	642.4	695.8	708.7
67.5°	467.6	506.4	584.1	635.9	648.8
70°	396.4	440.1	522.6	576.0	589.0
72.5°	334.9	380.2	462.8	514.5	534.0
75°	268.6	320.4	402.9	457.9	470.9
77.5°	203.9	263.7	347.9	389.9	389.9
80°	145.6	208.7	286.4	305.8	309.0
82.5°	95.5	157.0	212.0	210.3	210.3
85°	55.0	101.9	126.2	123.0	123.0
87.5°	21.0	42.1	45.3	45.3	43.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)