

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: P311592

Luminaire Tested: **24FCZ2-50-UNV-L82765-S-CP125-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: P311592
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-L82765-S-CP125-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" POLYCARB 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: 4769.0 lumens
Efficiency: N/A
Efficacy: 109.6 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

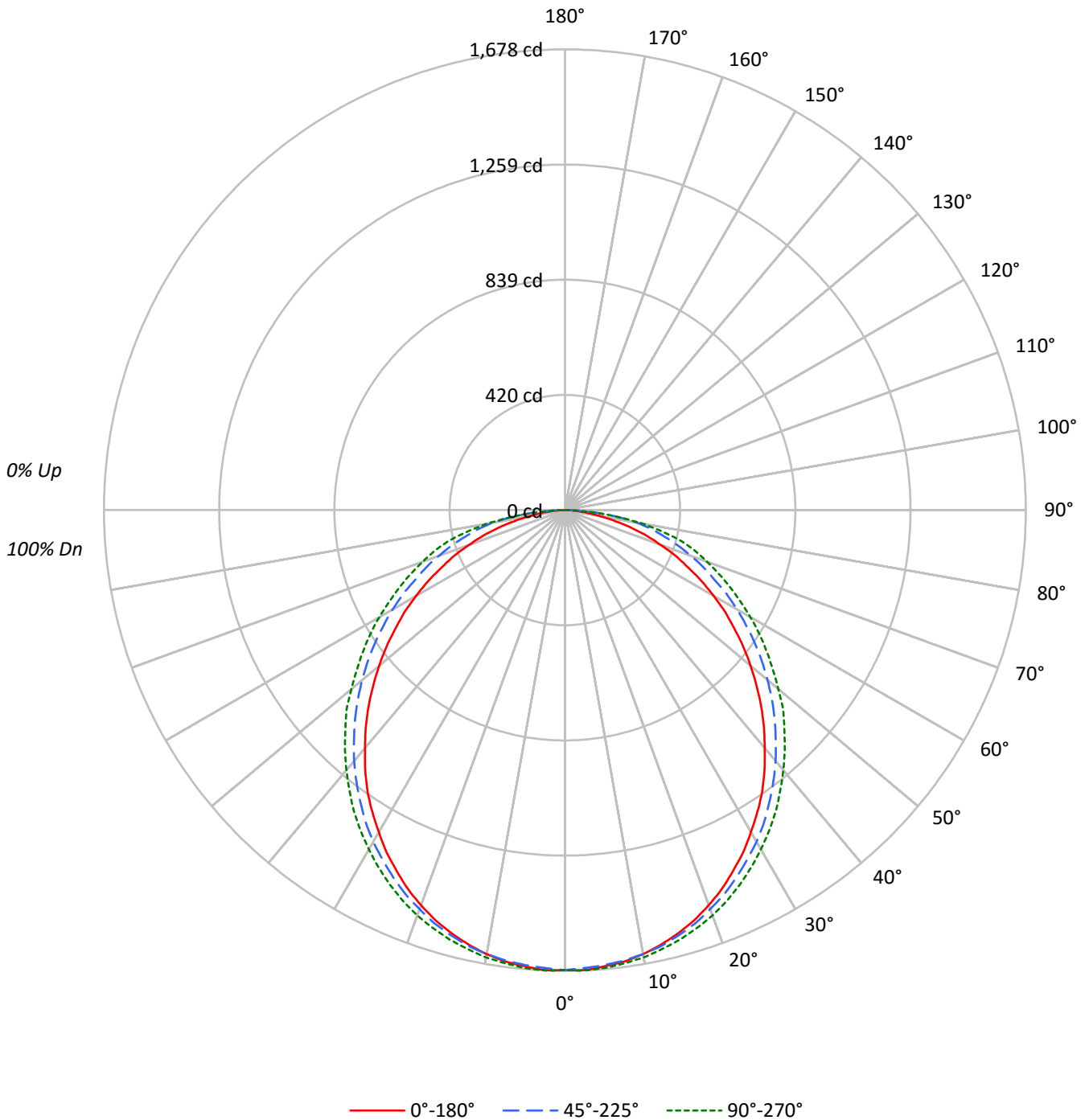
Input Watts (W): 43.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2254	2254	2254
5°	2253	2247	2261
10°	2244	2244	2260
15°	2222	2232	2256
20°	2193	2214	2249
25°	2152	2193	2235
30°	2104	2167	2217
35°	2058	2132	2200
40°	1988	2097	2174
45°	1923	2055	2150
50°	1849	2017	2124
55°	1766	1979	2104
60°	1683	1949	2099
65°	1577	1915	2112
70°	1460	1925	2169
75°	1307	1961	2292
80°	1056	2077	2242
85°	795	1825	1777



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	158.6	3.3
10°-20°	453.2	9.5
20°-30°	681.3	14.3
30°-40°	811.5	17.0
40°-50°	830.5	17.4
50°-60°	747.7	15.7
60°-70°	587.2	12.3
70°-80°	381.1	8.0
80°-90°	117.9	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°	1293.1	27.1
0°-40°	2104.6	44.1
0°-60°	3682.8	77.2
0°-90°	4769.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4769.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1675	1675	1675	1675	1675	
5°	1668	1671	1663	1672	1674	158
15°	1595	1600	1603	1616	1619	450
25°	1450	1462	1477	1501	1506	668
35°	1253	1268	1298	1330	1339	782
45°	1010	1035	1080	1121	1130	779
55°	753	786	844	888	897	675
65°	495	533	601	651	664	493
75°	252	300	377	429	441	266
85°	52	95	118	115	115	62
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1675.4	1675.4	1675.4	1675.4	1675.4
2.5°	1676.9	1676.9	1669.3	1676.9	1678.4
5°	1667.8	1670.8	1663.3	1672.4	1673.9
7.5°	1658.7	1658.7	1654.2	1663.3	1664.8
10°	1642.1	1643.6	1642.1	1652.7	1654.2
12.5°	1620.8	1623.9	1625.4	1636.0	1637.5
15°	1595.1	1599.6	1602.7	1616.3	1619.3
17.5°	1566.3	1570.9	1578.4	1593.6	1596.6
20°	1531.5	1537.5	1546.6	1566.3	1570.9
22.5°	1493.6	1499.7	1514.8	1533.0	1540.6
25°	1449.7	1461.8	1476.9	1501.2	1505.7
27.5°	1405.7	1416.3	1436.0	1461.8	1467.9
30°	1354.2	1370.9	1395.1	1420.9	1427.0
32.5°	1304.3	1320.9	1349.7	1377.0	1384.5
35°	1252.7	1267.9	1298.2	1330.0	1339.1
37.5°	1193.7	1213.4	1246.7	1278.5	1287.6
40°	1131.6	1155.8	1193.7	1227.0	1237.6
42.5°	1072.5	1098.2	1136.1	1172.5	1184.6
45°	1010.4	1034.6	1080.1	1121.0	1130.0
47.5°	946.8	974.0	1022.5	1063.4	1078.5
50°	883.1	911.9	963.4	1005.8	1014.9
52.5°	819.5	849.8	904.3	949.8	954.3
55°	752.9	786.2	843.7	887.7	896.8
57.5°	692.3	721.0	783.2	828.6	839.2
60°	625.6	657.4	724.1	766.5	780.1
62.5°	562.0	595.3	665.0	707.4	719.5
65°	495.3	533.2	601.4	651.4	663.5
67.5°	437.8	474.1	546.8	595.3	607.4
70°	371.1	412.0	489.3	539.3	551.4
72.5°	313.6	356.0	433.2	481.7	499.9
75°	251.5	299.9	377.2	428.7	440.8
77.5°	190.9	246.9	325.7	365.1	365.1
80°	136.3	195.4	268.1	286.3	289.3
82.5°	89.4	146.9	198.4	196.9	196.9
85°	51.5	95.4	118.2	115.1	115.1
87.5°	19.7	39.4	42.4	42.4	40.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)