

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: P311583

Luminaire Tested: **24FCZ2-50-UNV-L82765-S-CA125-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: P311583
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-CA125-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" 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: 4864.0 lumens
Efficiency: N/A
Efficacy: 111.8 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

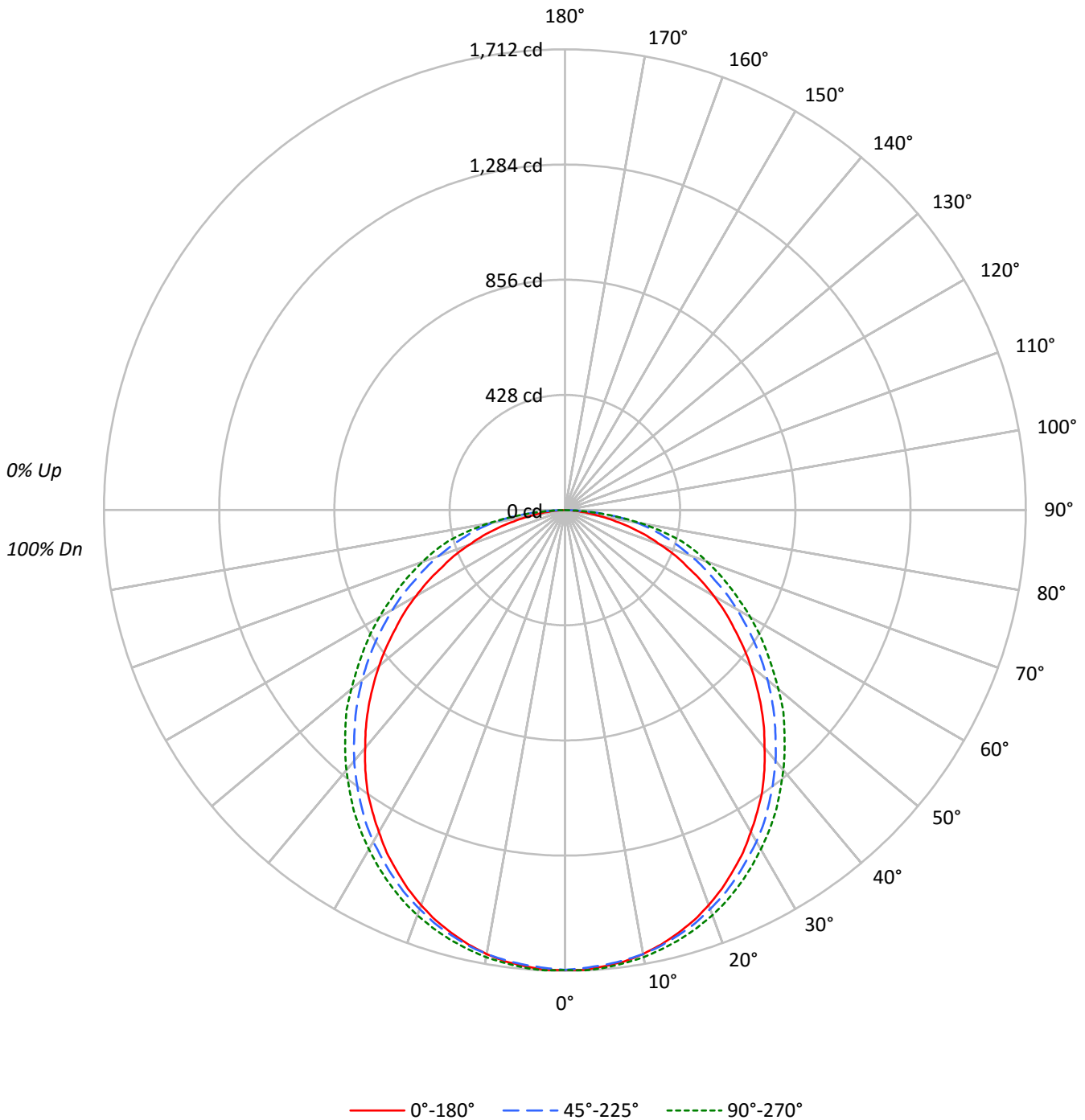
Input Watts (W): 43.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2299	2299	2299
5°	2297	2291	2306
10°	2288	2288	2305
15°	2266	2277	2301
20°	2237	2259	2294
25°	2195	2236	2280
30°	2146	2211	2261
35°	2099	2175	2243
40°	2027	2138	2217
45°	1961	2096	2193
50°	1885	2057	2167
55°	1801	2019	2145
60°	1717	1987	2141
65°	1608	1953	2154
70°	1489	1963	2212
75°	1333	2000	2337
80°	1077	2119	2287
85°	810	1860	1812



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	161.8	3.3
10°-20°	462.2	9.5
20°-30°	694.8	14.3
30°-40°	827.7	17.0
40°-50°	847.1	17.4
50°-60°	762.6	15.7
60°-70°	598.9	12.3
70°-80°	388.7	8.0
80°-90°	120.2	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°	1318.8	27.1
0°-40°	2146.5	44.1
0°-60°	3756.2	77.2
0°-90°	4864.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4864.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1709	1709	1709	1709	1709	
5°	1701	1704	1696	1706	1707	162
15°	1627	1632	1635	1648	1652	459
25°	1479	1491	1506	1531	1536	681
35°	1278	1293	1324	1356	1366	797
45°	1030	1055	1102	1143	1153	794
55°	768	802	861	905	915	688
65°	505	544	613	664	677	503
75°	256	306	385	437	450	271
85°	52	97	120	117	117	63
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1708.8	1708.8	1708.8	1708.8	1708.8
2.5°	1710.3	1710.3	1702.6	1710.3	1711.8
5°	1701.0	1704.1	1696.4	1705.7	1707.2
7.5°	1691.8	1691.8	1687.1	1696.4	1697.9
10°	1674.8	1676.3	1674.8	1685.6	1687.1
12.5°	1653.1	1656.2	1657.8	1668.6	1670.1
15°	1626.9	1631.5	1634.6	1648.5	1651.6
17.5°	1597.5	1602.2	1609.9	1625.3	1628.4
20°	1562.0	1568.2	1577.4	1597.5	1602.2
22.5°	1523.4	1529.5	1545.0	1563.5	1571.3
25°	1478.6	1490.9	1506.4	1531.1	1535.7
27.5°	1433.7	1444.6	1464.6	1490.9	1497.1
30°	1381.2	1398.2	1422.9	1449.2	1455.4
32.5°	1330.2	1347.2	1376.6	1404.4	1412.1
35°	1277.7	1293.2	1324.1	1356.5	1365.8
37.5°	1217.4	1237.5	1271.5	1304.0	1313.2
40°	1154.1	1178.8	1217.4	1251.4	1262.3
42.5°	1093.9	1120.1	1158.7	1195.8	1208.2
45°	1030.5	1055.2	1101.6	1143.3	1152.6
47.5°	965.6	993.4	1042.9	1084.6	1100.0
50°	900.7	930.1	982.6	1025.9	1035.1
52.5°	835.8	866.7	922.4	968.7	973.3
55°	767.9	801.8	860.6	905.4	914.6
57.5°	706.1	735.4	798.8	845.1	855.9
60°	638.1	670.5	738.5	781.8	795.7
62.5°	573.2	607.2	678.2	721.5	733.9
65°	505.2	543.8	613.4	664.3	676.7
67.5°	446.5	483.6	557.7	607.2	619.5
70°	378.5	420.2	499.0	550.0	562.4
72.5°	319.8	363.1	441.9	491.3	509.8
75°	256.5	305.9	384.7	437.2	449.6
77.5°	194.7	251.8	332.2	372.3	372.3
80°	139.0	199.3	273.5	292.0	295.1
82.5°	91.2	149.9	202.4	200.8	200.8
85°	52.5	97.3	120.5	117.4	117.4
87.5°	20.1	40.2	43.3	43.3	41.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)