

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: P311540

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-S-CA125-W2A-U-5500K**

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: P311540
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: 24FCZ2-50HE-UNV-L82765-S-CA125-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" ACRYLIC SHEET
Light Source: (336) 5500K 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: 5003.0 lumens
Efficiency: N/A
Efficacy: 126.7 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

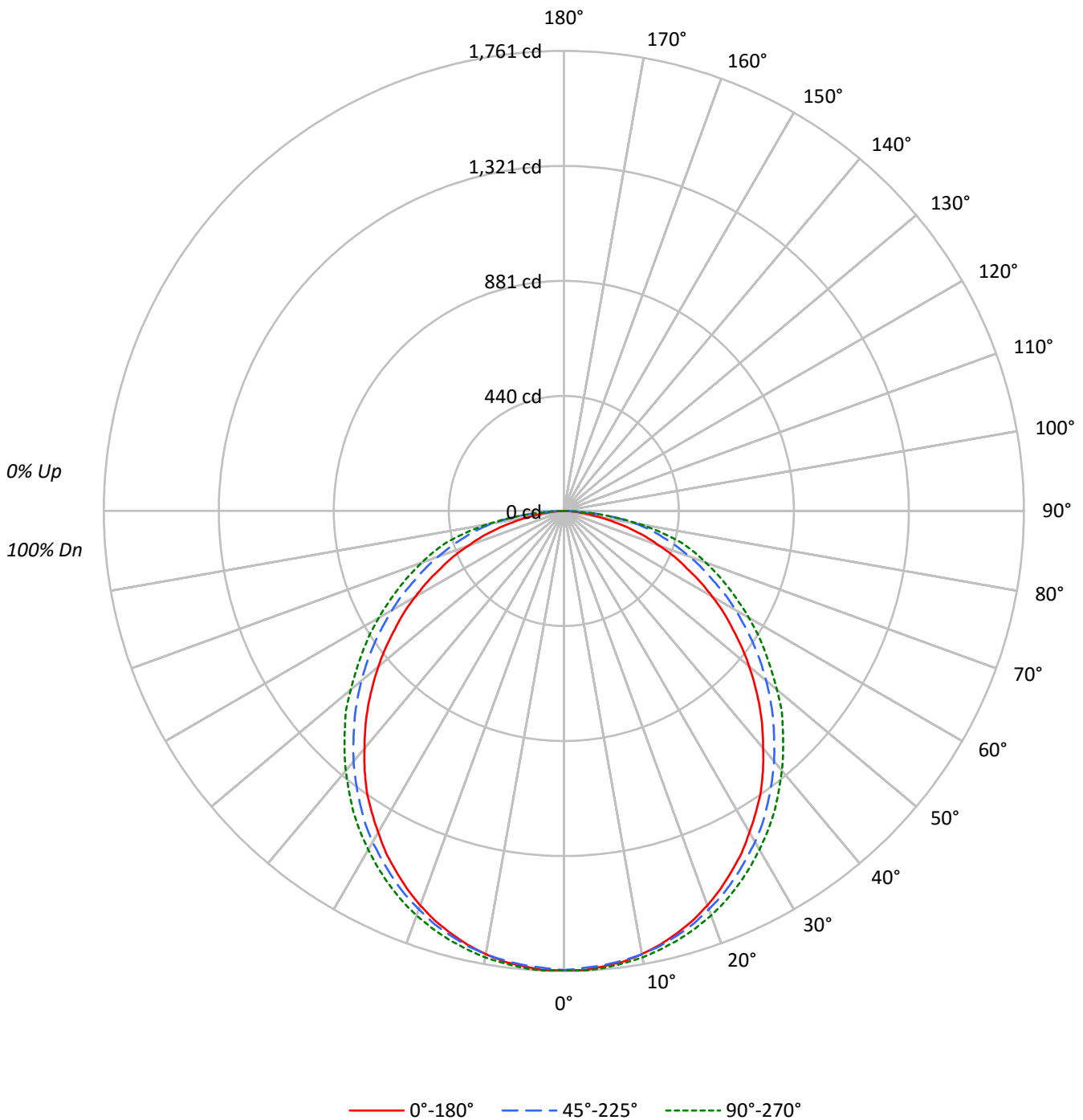
Input Watts (W): 39.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2365	2365	2365
5°	2363	2357	2372
10°	2353	2353	2371
15°	2331	2342	2366
20°	2300	2323	2360
25°	2258	2300	2345
30°	2207	2274	2326
35°	2159	2237	2307
40°	2085	2199	2280
45°	2017	2156	2256
50°	1939	2116	2229
55°	1853	2076	2207
60°	1766	2044	2202
65°	1654	2009	2216
70°	1531	2019	2275
75°	1371	2057	2404
80°	1108	2180	2352
85°	834	1914	1865



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	166.4	3.3
10°-20°	475.4	9.5
20°-30°	714.7	14.3
30°-40°	851.3	17.0
40°-50°	871.3	17.4
50°-60°	784.4	15.7
60°-70°	616.0	12.3
70°-80°	399.8	8.0
80°-90°	123.7	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°	1356.5	27.1
0°-40°	2207.8	44.1
0°-60°	3863.5	77.2
0°-90°	5003.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5003.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1758	1758	1758	1758	1758	
5°	1750	1753	1745	1754	1756	166
15°	1673	1678	1681	1696	1699	472
25°	1521	1534	1549	1575	1580	701
35°	1314	1330	1362	1395	1405	820
45°	1060	1085	1133	1176	1186	817
55°	790	825	885	931	941	708
65°	520	559	631	683	696	517
75°	264	315	396	450	462	279
85°	54	100	124	121	121	65
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1757.6	1757.6	1757.6	1757.6	1757.6
2.5°	1759.2	1759.2	1751.2	1759.2	1760.8
5°	1749.6	1752.8	1744.9	1754.4	1756.0
7.5°	1740.1	1740.1	1735.3	1744.9	1746.5
10°	1722.6	1724.2	1722.6	1733.7	1735.3
12.5°	1700.4	1703.6	1705.1	1716.3	1717.9
15°	1673.4	1678.1	1681.3	1695.6	1698.8
17.5°	1643.2	1647.9	1655.9	1671.8	1675.0
20°	1606.6	1613.0	1622.5	1643.2	1647.9
22.5°	1566.9	1573.2	1589.1	1608.2	1616.2
25°	1520.8	1533.5	1549.4	1574.8	1579.6
27.5°	1474.7	1485.8	1506.5	1533.5	1539.9
30°	1420.7	1438.2	1463.6	1490.6	1497.0
32.5°	1368.2	1385.7	1415.9	1444.5	1452.5
35°	1314.2	1330.1	1361.9	1395.3	1404.8
37.5°	1252.2	1272.9	1307.9	1341.2	1350.8
40°	1187.1	1212.5	1252.2	1287.2	1298.3
42.5°	1125.1	1152.1	1191.9	1230.0	1242.7
45°	1060.0	1085.4	1133.1	1176.0	1185.5
47.5°	993.2	1021.8	1072.7	1115.6	1131.5
50°	926.5	956.7	1010.7	1055.2	1064.7
52.5°	859.7	891.5	948.7	996.4	1001.2
55°	789.8	824.8	885.1	931.2	940.8
57.5°	726.2	756.4	821.6	869.3	880.4
60°	656.3	689.7	759.6	804.1	818.4
62.5°	589.6	624.5	697.6	742.1	754.8
65°	519.6	559.4	630.9	683.3	696.0
67.5°	459.3	497.4	573.7	624.5	637.2
70°	389.3	432.2	513.3	565.7	578.4
72.5°	329.0	373.4	454.5	505.3	524.4
75°	263.8	314.6	395.7	449.7	462.4
77.5°	200.2	259.0	341.7	383.0	383.0
80°	143.0	205.0	281.3	300.3	303.5
82.5°	93.8	154.1	208.2	206.6	206.6
85°	54.0	100.1	124.0	120.8	120.8
87.5°	20.7	41.3	44.5	44.5	42.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)