

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: P314403

Luminaire Tested: **24FCZ2-50-UNV-L83050-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: P314403
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-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: 4977.0 lumens
Efficiency: N/A
Efficacy: 111.1 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

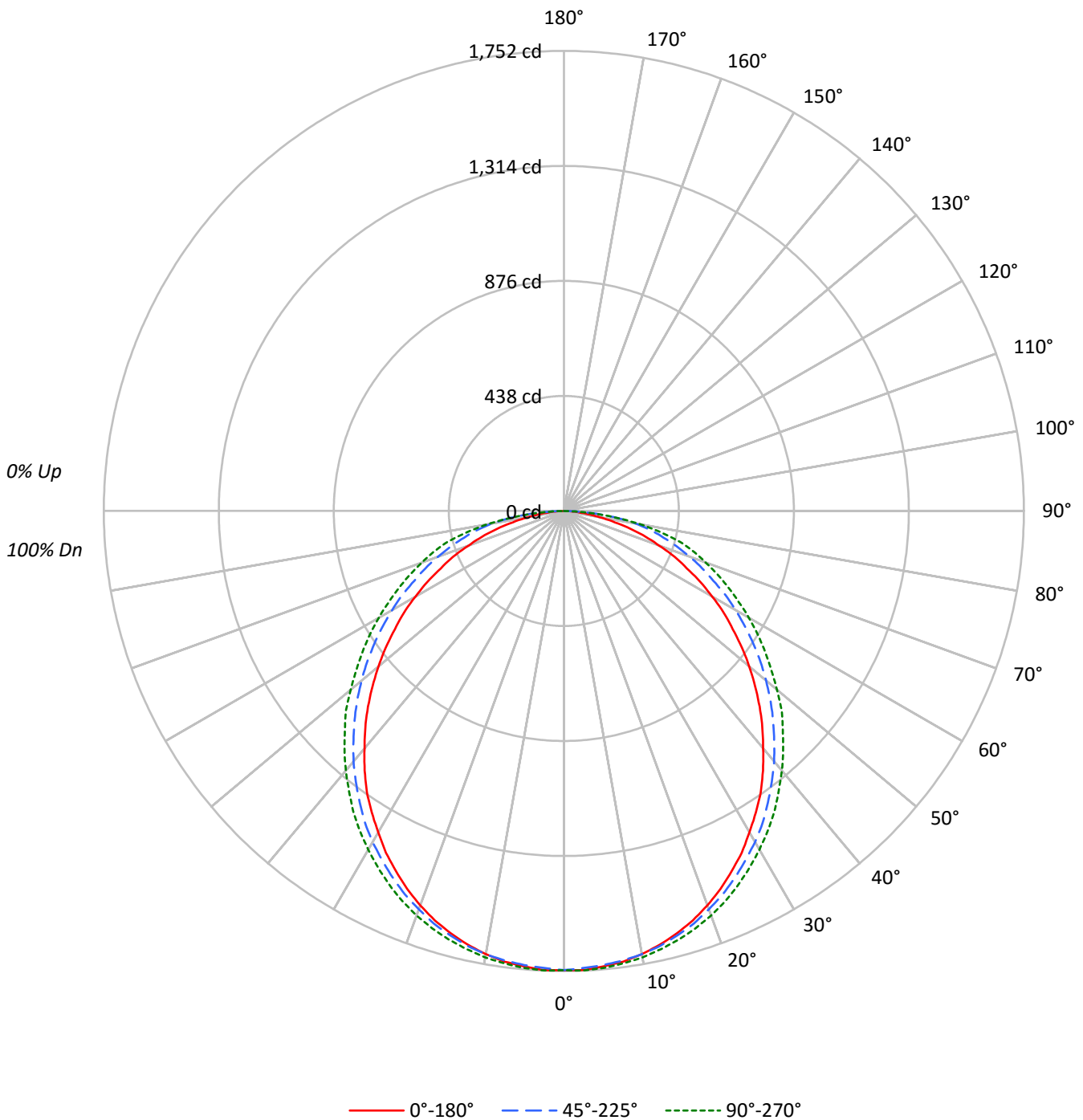
Input Watts (W): 44.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2353	2353	2353
5°	2351	2344	2359
10°	2341	2341	2359
15°	2319	2330	2354
20°	2289	2311	2347
25°	2246	2288	2333
30°	2196	2262	2314
35°	2147	2225	2295
40°	2074	2188	2269
45°	2006	2145	2244
50°	1929	2105	2217
55°	1843	2065	2195
60°	1757	2034	2191
65°	1646	1998	2204
70°	1524	2009	2264
75°	1364	2046	2391
80°	1103	2168	2339
85°	829	1903	1854



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	165.5	3.3
10°-20°	473.0	9.5
20°-30°	711.0	14.3
30°-40°	846.9	17.0
40°-50°	866.8	17.4
50°-60°	780.3	15.7
60°-70°	612.8	12.3
70°-80°	397.7	8.0
80°-90°	123.0	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°	1349.5	27.1
0°-40°	2196.4	44.1
0°-60°	3843.5	77.2
0°-90°	4977.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4977.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1748	1748	1748	1748	1748	
5°	1740	1744	1736	1745	1747	165
15°	1665	1669	1673	1687	1690	469
25°	1513	1526	1541	1567	1571	697
35°	1307	1323	1355	1388	1398	816
45°	1054	1080	1127	1170	1179	813
55°	786	820	880	926	936	704
65°	517	556	628	680	692	515
75°	262	313	394	447	460	278
85°	54	100	123	120	120	65
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1748.5	1748.5	1748.5	1748.5	1748.5
2.5°	1750.0	1750.0	1742.1	1750.0	1751.6
5°	1740.5	1743.7	1735.8	1745.3	1746.9
7.5°	1731.1	1731.1	1726.3	1735.8	1737.4
10°	1713.7	1715.3	1713.7	1724.7	1726.3
12.5°	1691.5	1694.7	1696.3	1707.3	1708.9
15°	1664.7	1669.4	1672.6	1686.8	1690.0
17.5°	1634.6	1639.4	1647.3	1663.1	1666.2
20°	1598.3	1604.6	1614.1	1634.6	1639.4
22.5°	1558.7	1565.1	1580.9	1599.8	1607.8
25°	1512.9	1525.5	1541.4	1566.7	1571.4
27.5°	1467.1	1478.1	1498.7	1525.5	1531.9
30°	1413.3	1430.7	1456.0	1482.9	1489.2
32.5°	1361.1	1378.5	1408.6	1437.0	1444.9
35°	1307.4	1323.2	1354.8	1388.0	1397.5
37.5°	1245.7	1266.3	1301.1	1334.3	1343.7
40°	1180.9	1206.2	1245.7	1280.5	1291.6
42.5°	1119.3	1146.1	1185.7	1223.6	1236.2
45°	1054.4	1079.7	1127.2	1169.9	1179.3
47.5°	988.0	1016.5	1067.1	1109.8	1125.6
50°	921.7	951.7	1005.4	1049.7	1059.2
52.5°	855.3	886.9	943.8	991.2	996.0
55°	785.7	820.5	880.5	926.4	935.9
57.5°	722.5	752.5	817.3	864.7	875.8
60°	652.9	686.1	755.7	799.9	814.2
62.5°	586.5	621.3	694.0	738.3	750.9
65°	516.9	556.5	627.6	679.8	692.4
67.5°	456.9	494.8	570.7	621.3	633.9
70°	387.3	430.0	510.6	562.8	575.4
72.5°	327.2	371.5	452.1	502.7	521.7
75°	262.4	313.0	393.6	447.4	460.0
77.5°	199.2	257.7	339.9	381.0	381.0
80°	142.3	203.9	279.8	298.8	301.9
82.5°	93.3	153.3	207.1	205.5	205.5
85°	53.7	99.6	123.3	120.1	120.1
87.5°	20.6	41.1	44.3	44.3	42.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)