

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: P311545

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-S-CP125-W2A-U-3500K**

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: P311545
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-CP125-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" POLYCARB SHEET
Light Source: (336) 3500K 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: 4608.0 lumens
Efficiency: N/A
Efficacy: 119.4 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

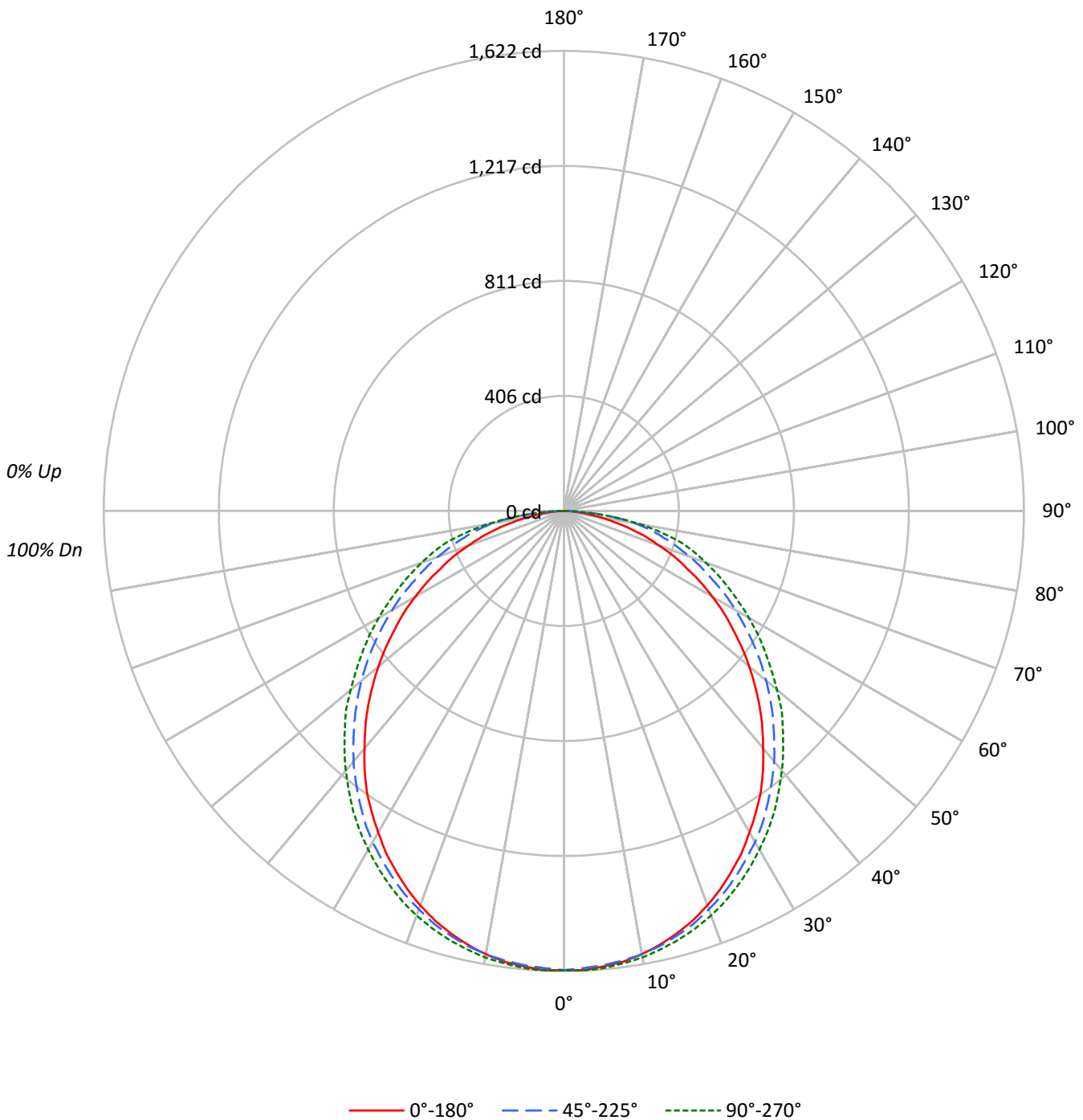
Input Watts (W): 38.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2178	2178	2178
5°	2177	2171	2185
10°	2168	2168	2184
15°	2147	2157	2180
20°	2119	2140	2173
25°	2079	2119	2160
30°	2033	2094	2142
35°	1988	2060	2125
40°	1920	2026	2100
45°	1858	1986	2078
50°	1786	1949	2053
55°	1706	1913	2033
60°	1627	1883	2028
65°	1524	1850	2041
70°	1411	1860	2096
75°	1263	1895	2214
80°	1020	2008	2166
85°	769	1763	1717



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.3	3.3
10°-20°	437.9	9.5
20°-30°	658.3	14.3
30°-40°	784.1	17.0
40°-50°	802.5	17.4
50°-60°	722.5	15.7
60°-70°	567.4	12.3
70°-80°	368.2	8.0
80°-90°	113.9	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°	1249.4	27.1
0°-40°	2033.5	44.1
0°-60°	3558.5	77.2
0°-90°	4608.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4608.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1619	1619	1619	1619	1619	
5°	1612	1614	1607	1616	1617	153
15°	1541	1546	1549	1562	1565	435
25°	1401	1412	1427	1450	1455	645
35°	1210	1225	1254	1285	1294	755
45°	976	1000	1044	1083	1092	753
55°	727	760	815	858	866	652
65°	479	515	581	629	641	476
75°	243	290	364	414	426	257
85°	50	92	114	111	111	60
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1618.8	1618.8	1618.8	1618.8	1618.8
2.5°	1620.3	1620.3	1613.0	1620.3	1621.7
5°	1611.5	1614.4	1607.1	1615.9	1617.4
7.5°	1602.7	1602.7	1598.3	1607.1	1608.6
10°	1586.6	1588.1	1586.6	1596.9	1598.3
12.5°	1566.1	1569.1	1570.5	1580.8	1582.2
15°	1541.2	1545.6	1548.6	1561.7	1564.7
17.5°	1513.4	1517.8	1525.1	1539.8	1542.7
20°	1479.8	1485.6	1494.4	1513.4	1517.8
22.5°	1443.2	1449.0	1463.7	1481.2	1488.6
25°	1400.7	1412.4	1427.1	1450.5	1454.9
27.5°	1358.3	1368.5	1387.6	1412.4	1418.3
30°	1308.5	1324.6	1348.0	1372.9	1378.8
32.5°	1260.2	1276.3	1304.1	1330.5	1337.8
35°	1210.5	1225.1	1254.4	1285.1	1293.9
37.5°	1153.4	1172.4	1204.6	1235.3	1244.1
40°	1093.4	1116.8	1153.4	1185.6	1195.8
42.5°	1036.3	1061.2	1097.8	1132.9	1144.6
45°	976.3	999.7	1043.6	1083.1	1091.9
47.5°	914.8	941.1	988.0	1027.5	1042.1
50°	853.3	881.1	930.9	971.9	980.7
52.5°	791.8	821.1	873.8	917.7	922.1
55°	727.4	759.6	815.3	857.7	866.5
57.5°	668.9	696.7	756.7	800.6	810.9
60°	604.5	635.2	699.6	740.6	753.8
62.5°	543.0	575.2	642.6	683.5	695.2
65°	478.6	515.2	581.1	629.4	641.1
67.5°	423.0	458.1	528.4	575.2	586.9
70°	358.6	398.1	472.8	521.1	532.8
72.5°	303.0	344.0	418.6	465.4	483.0
75°	243.0	289.8	364.5	414.2	425.9
77.5°	184.4	238.6	314.7	352.7	352.7
80°	131.7	188.8	259.1	276.6	279.6
82.5°	86.4	142.0	191.7	190.3	190.3
85°	49.8	92.2	114.2	111.2	111.2
87.5°	19.0	38.1	41.0	41.0	39.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)