

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: P311612

Luminaire Tested: **24FCZ2-50-UNV-L82765-S-CP250-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: P311612
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-CP250-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (168) 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: 4637.0 lumens
Efficiency: N/A
Efficacy: 105.6 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

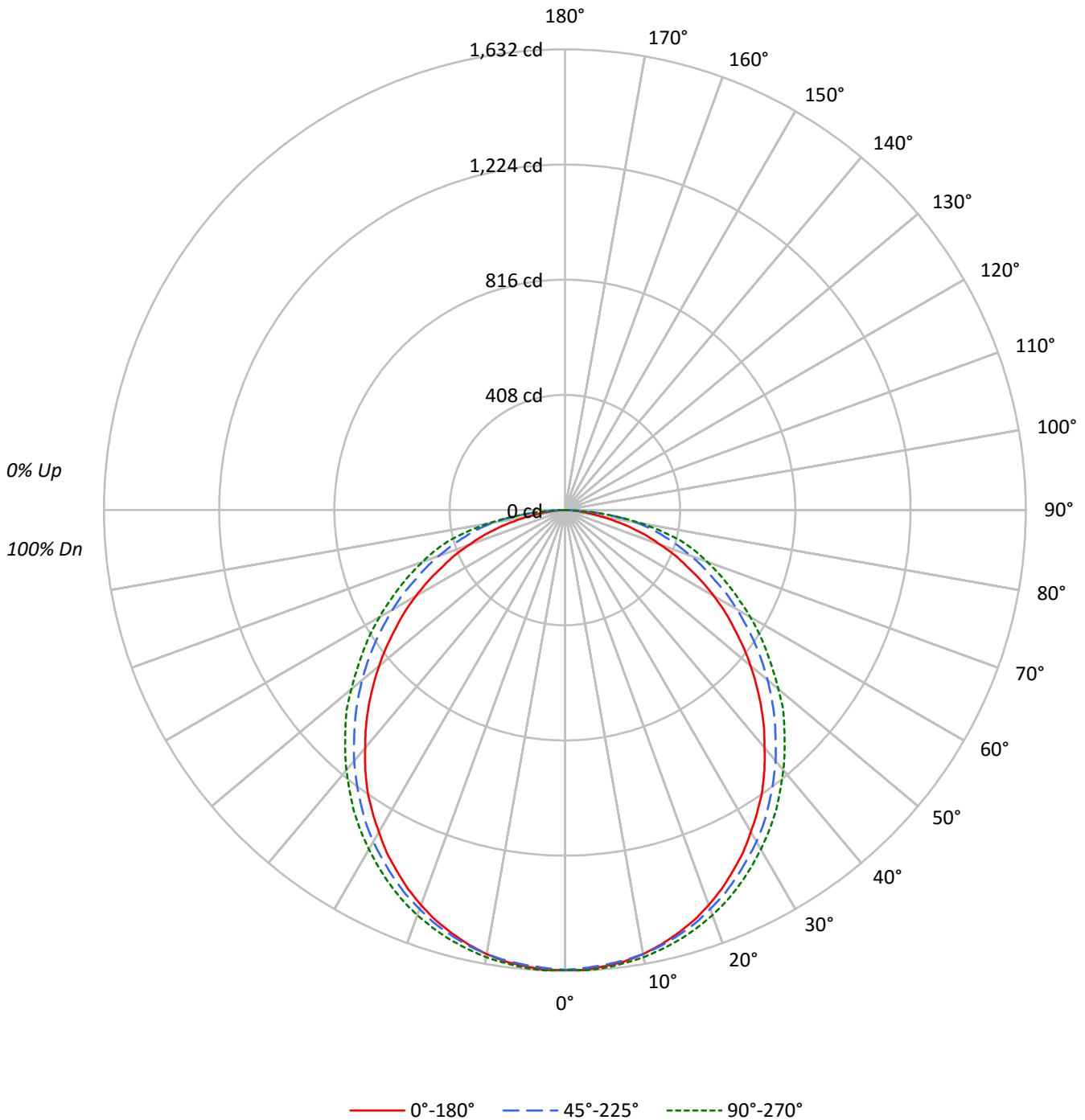
Input Watts (W): 43.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2192	2192	2192
5°	2190	2184	2198
10°	2181	2181	2197
15°	2160	2171	2193
20°	2132	2153	2187
25°	2093	2132	2173
30°	2046	2108	2156
35°	2001	2073	2139
40°	1932	2038	2113
45°	1869	1998	2091
50°	1797	1961	2066
55°	1717	1924	2045
60°	1637	1894	2041
65°	1533	1862	2054
70°	1420	1871	2109
75°	1271	1906	2228
80°	1027	2020	2180
85°	773	1774	1727



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	154.2	3.3
10°-20°	440.7	9.5
20°-30°	662.4	14.3
30°-40°	789.0	17.0
40°-50°	807.5	17.4
50°-60°	727.0	15.7
60°-70°	570.9	12.3
70°-80°	370.6	8.0
80°-90°	114.6	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°	1257.3	27.1
0°-40°	2046.3	44.1
0°-60°	3580.9	77.2
0°-90°	4637.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4637.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1629	1629	1629	1629	1629	
5°	1622	1625	1617	1626	1628	154
15°	1551	1555	1558	1572	1574	437
25°	1410	1421	1436	1460	1464	649
35°	1218	1233	1262	1293	1302	760
45°	982	1006	1050	1090	1099	757
55°	732	764	820	863	872	656
65°	482	518	585	633	645	479
75°	244	292	367	417	429	259
85°	50	93	115	112	112	60
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1629.0	1629.0	1629.0	1629.0	1629.0
2.5°	1630.5	1630.5	1623.1	1630.5	1632.0
5°	1621.6	1624.6	1617.2	1626.1	1627.5
7.5°	1612.8	1612.8	1608.4	1617.2	1618.7
10°	1596.6	1598.1	1596.6	1606.9	1608.4
12.5°	1576.0	1578.9	1580.4	1590.7	1592.2
15°	1550.9	1555.4	1558.3	1571.6	1574.5
17.5°	1523.0	1527.4	1534.7	1549.5	1552.4
20°	1489.1	1495.0	1503.8	1523.0	1527.4
22.5°	1452.3	1458.2	1472.9	1490.6	1497.9
25°	1409.5	1421.3	1436.1	1459.6	1464.0
27.5°	1366.8	1377.1	1396.3	1421.3	1427.2
30°	1316.8	1333.0	1356.5	1381.6	1387.5
32.5°	1268.2	1284.4	1312.3	1338.9	1346.2
35°	1218.1	1232.8	1262.3	1293.2	1302.0
37.5°	1160.6	1179.8	1212.2	1243.1	1252.0
40°	1100.2	1123.8	1160.6	1193.0	1203.3
42.5°	1042.8	1067.8	1104.7	1140.0	1151.8
45°	982.4	1006.0	1050.2	1089.9	1098.8
47.5°	920.6	947.1	994.2	1034.0	1048.7
50°	858.7	886.7	936.8	978.0	986.8
52.5°	796.8	826.3	879.3	923.5	927.9
55°	732.0	764.4	820.4	863.1	871.9
57.5°	673.1	701.1	761.5	805.7	816.0
60°	608.3	639.2	704.0	745.3	758.5
62.5°	546.4	578.8	646.6	687.8	699.6
65°	481.6	518.5	584.7	633.3	645.1
67.5°	425.7	461.0	531.7	578.8	590.6
70°	360.9	400.6	475.7	524.3	536.1
72.5°	304.9	346.1	421.2	468.4	486.1
75°	244.5	291.6	366.7	416.8	428.6
77.5°	185.6	240.1	316.7	355.0	355.0
80°	132.6	190.0	260.7	278.4	281.3
82.5°	86.9	142.9	192.9	191.5	191.5
85°	50.1	92.8	114.9	111.9	111.9
87.5°	19.1	38.3	41.2	41.2	39.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)