

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: P311526

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-S-CA08-W2A-U-3000K**

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: P311526
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-CA08-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 3000K 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: 4558.0 lumens
Efficiency: N/A
Efficacy: 119.6 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

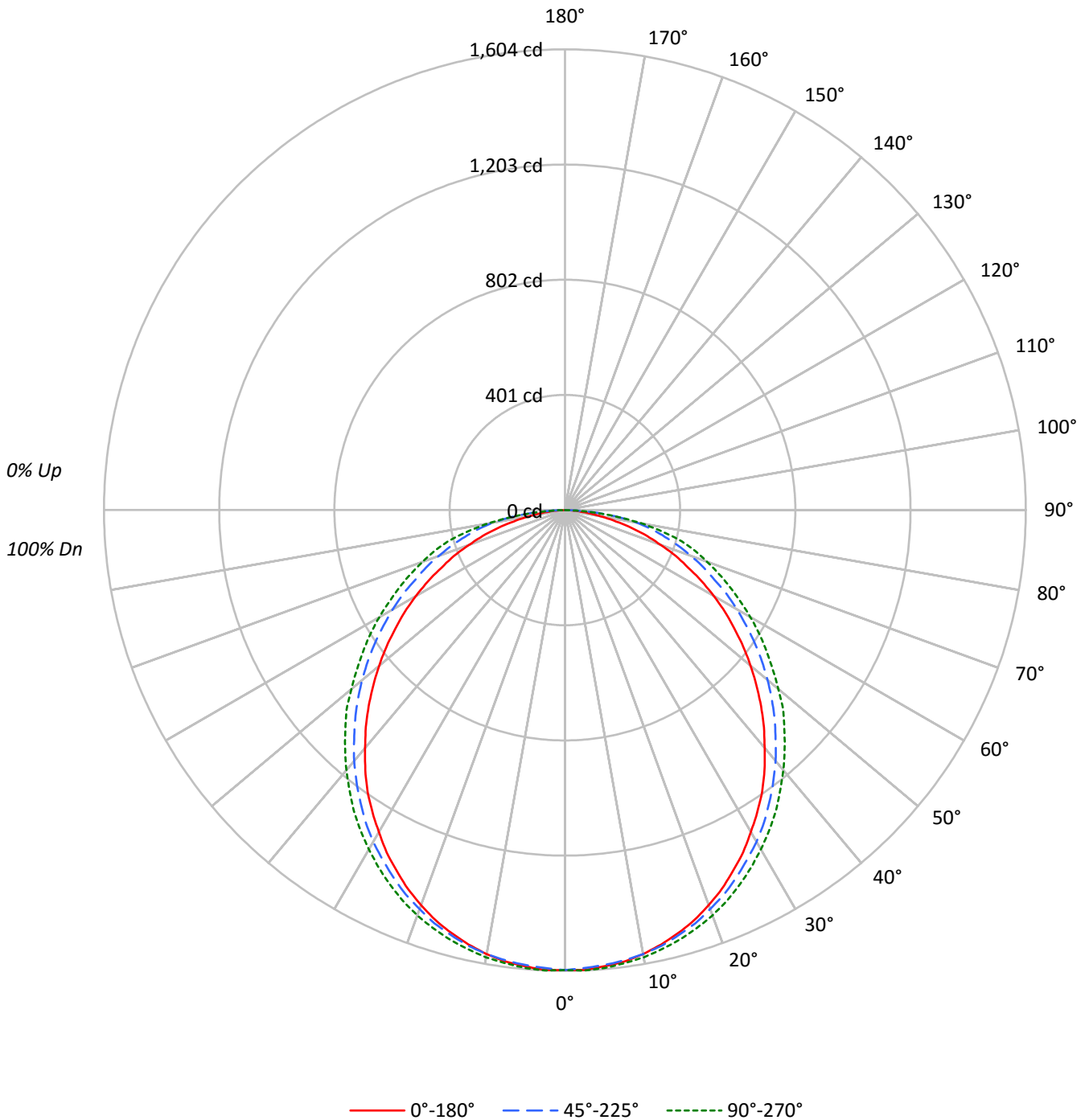
Input Watts (W): 38.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2155	2155	2155
5°	2153	2147	2161
10°	2144	2144	2160
15°	2124	2134	2156
20°	2096	2117	2150
25°	2057	2096	2136
30°	2011	2072	2119
35°	1967	2038	2102
40°	1900	2004	2077
45°	1838	1964	2055
50°	1767	1927	2030
55°	1688	1892	2011
60°	1609	1862	2006
65°	1507	1830	2019
70°	1395	1840	2073
75°	1249	1874	2190
80°	1010	1986	2142
85°	760	1743	1698



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	151.6	3.3
10°-20°	433.2	9.5
20°-30°	651.1	14.3
30°-40°	775.6	17.0
40°-50°	793.8	17.4
50°-60°	714.6	15.7
60°-70°	561.2	12.3
70°-80°	364.2	8.0
80°-90°	112.6	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°	1235.9	27.1
0°-40°	2011.5	44.1
0°-60°	3519.9	77.2
0°-90°	4558.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4558.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1601	1601	1601	1601	1601	
5°	1594	1597	1590	1598	1600	151
15°	1524	1529	1532	1545	1548	430
25°	1386	1397	1412	1435	1439	638
35°	1197	1212	1241	1271	1280	747
45°	966	989	1032	1071	1080	745
55°	720	751	806	848	857	645
65°	473	510	575	622	634	471
75°	240	287	360	410	421	254
85°	49	91	113	110	110	59
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1601.3	1601.3	1601.3	1601.3	1601.3
2.5°	1602.7	1602.7	1595.5	1602.7	1604.2
5°	1594.0	1596.9	1589.7	1598.4	1599.8
7.5°	1585.3	1585.3	1581.0	1589.7	1591.1
10°	1569.4	1570.9	1569.4	1579.5	1581.0
12.5°	1549.1	1552.0	1553.5	1563.6	1565.1
15°	1524.5	1528.9	1531.8	1544.8	1547.7
17.5°	1497.0	1501.4	1508.6	1523.1	1526.0
20°	1463.7	1469.5	1478.2	1497.0	1501.4
22.5°	1427.5	1433.3	1447.8	1465.2	1472.4
25°	1385.5	1397.1	1411.6	1434.8	1439.1
27.5°	1343.5	1353.7	1372.5	1397.1	1402.9
30°	1294.3	1310.2	1333.4	1358.0	1363.8
32.5°	1246.5	1262.5	1290.0	1316.0	1323.3
35°	1197.3	1211.8	1240.8	1271.2	1279.8
37.5°	1140.9	1159.7	1191.5	1221.9	1230.6
40°	1081.5	1104.7	1140.9	1172.7	1182.8
42.5°	1025.0	1049.6	1085.8	1120.6	1132.2
45°	965.7	988.8	1032.3	1071.4	1080.1
47.5°	904.9	930.9	977.3	1016.3	1030.8
50°	844.1	871.6	920.8	961.3	970.0
52.5°	783.3	812.2	864.3	907.8	912.1
55°	719.6	751.4	806.4	848.4	857.1
57.5°	661.6	689.1	748.5	791.9	802.1
60°	597.9	628.3	692.0	732.6	745.6
62.5°	537.1	569.0	635.6	676.1	687.7
65°	473.4	509.6	574.8	622.5	634.1
67.5°	418.4	453.2	522.7	569.0	580.6
70°	354.7	393.8	467.6	515.4	527.0
72.5°	299.7	340.2	414.1	460.4	477.8
75°	240.3	286.7	360.5	409.7	421.3
77.5°	182.4	236.0	311.3	348.9	348.9
80°	130.3	186.8	256.3	273.6	276.5
82.5°	85.4	140.4	189.7	188.2	188.2
85°	49.2	91.2	112.9	110.0	110.0
87.5°	18.8	37.6	40.5	40.5	39.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)