

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: P311528

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-S-CA08-W2A-U-4000K**

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: P311528
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-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 4000K 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: 4820.0 lumens
Efficiency: N/A
Efficacy: 124.2 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

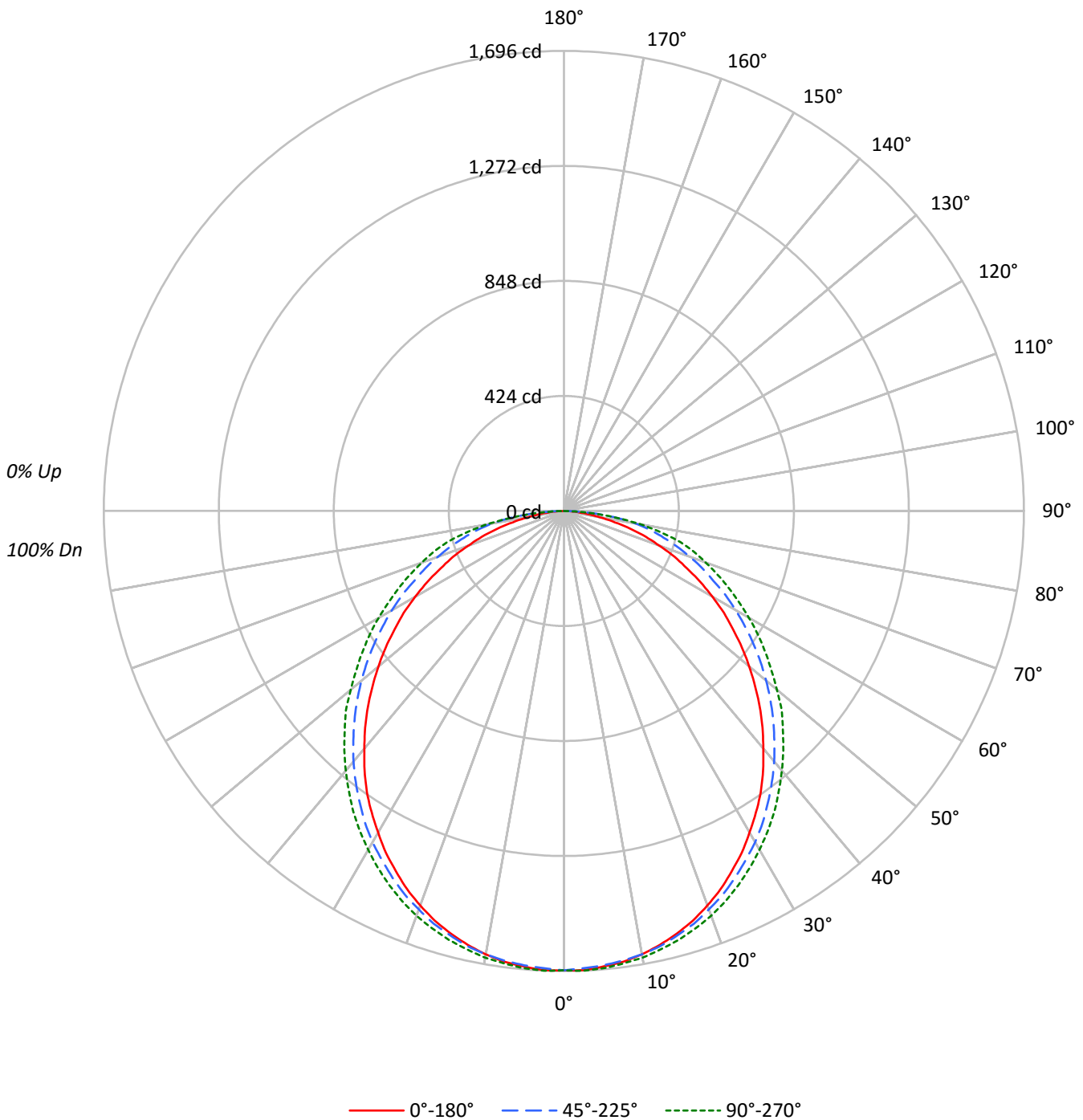
Input Watts (W): 38.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2278	2278	2278
5°	2277	2270	2285
10°	2267	2267	2284
15°	2246	2256	2280
20°	2216	2238	2273
25°	2175	2216	2259
30°	2126	2191	2241
35°	2080	2155	2223
40°	2009	2119	2197
45°	1943	2077	2173
50°	1868	2038	2147
55°	1785	2000	2126
60°	1702	1969	2122
65°	1594	1935	2135
70°	1476	1945	2192
75°	1321	1982	2316
80°	1068	2100	2266
85°	804	1843	1797



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	160.3	3.3
10°-20°	458.1	9.5
20°-30°	688.6	14.3
30°-40°	820.2	17.0
40°-50°	839.4	17.4
50°-60°	755.7	15.7
60°-70°	593.5	12.3
70°-80°	385.2	8.0
80°-90°	119.1	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°	1306.9	27.1
0°-40°	2127.1	44.1
0°-60°	3722.2	77.2
0°-90°	4820.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4820.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1693	1693	1693	1693	1693	
5°	1686	1689	1681	1690	1692	160
15°	1612	1617	1620	1634	1637	455
25°	1465	1477	1493	1517	1522	675
35°	1266	1282	1312	1344	1353	790
45°	1021	1046	1092	1133	1142	787
55°	761	795	853	897	906	682
65°	501	539	608	658	671	498
75°	254	303	381	433	446	269
85°	52	96	119	116	116	63
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1693.3	1693.3	1693.3	1693.3	1693.3
2.5°	1694.8	1694.8	1687.2	1694.8	1696.4
5°	1685.6	1688.7	1681.0	1690.2	1691.8
7.5°	1676.5	1676.5	1671.9	1681.0	1682.6
10°	1659.6	1661.1	1659.6	1670.3	1671.9
12.5°	1638.2	1641.2	1642.8	1653.5	1655.0
15°	1612.2	1616.7	1619.8	1633.6	1636.7
17.5°	1583.1	1587.7	1595.3	1610.6	1613.7
20°	1547.9	1554.0	1563.2	1583.1	1587.7
22.5°	1509.6	1515.7	1531.0	1549.4	1557.0
25°	1465.2	1477.4	1492.7	1517.2	1521.8
27.5°	1420.8	1431.5	1451.4	1477.4	1483.5
30°	1368.7	1385.6	1410.1	1436.1	1442.2
32.5°	1318.2	1335.0	1364.1	1391.7	1399.3
35°	1266.1	1281.5	1312.1	1344.2	1353.4
37.5°	1206.4	1226.3	1260.0	1292.2	1301.4
40°	1143.7	1168.2	1206.4	1240.1	1250.8
42.5°	1084.0	1110.0	1148.3	1185.0	1197.3
45°	1021.2	1045.7	1091.6	1132.9	1142.1
47.5°	956.9	984.4	1033.4	1074.8	1090.1
50°	892.6	921.7	973.7	1016.6	1025.8
52.5°	828.3	858.9	914.0	959.9	964.5
55°	760.9	794.6	852.8	897.2	906.4
57.5°	699.7	728.8	791.5	837.5	848.2
60°	632.3	664.5	731.8	774.7	788.5
62.5°	568.0	601.7	672.1	715.0	727.2
65°	500.6	538.9	607.8	658.3	670.6
67.5°	442.5	479.2	552.7	601.7	613.9
70°	375.1	416.4	494.5	545.0	557.3
72.5°	316.9	359.8	437.9	486.9	505.2
75°	254.1	303.1	381.2	433.3	445.5
77.5°	192.9	249.6	329.2	369.0	369.0
80°	137.8	197.5	271.0	289.4	292.4
82.5°	90.3	148.5	200.6	199.0	199.0
85°	52.1	96.5	119.4	116.4	116.4
87.5°	19.9	39.8	42.9	42.9	41.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)