

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: P311653

Luminaire Tested: **24FCZ2-55HE-UNV-L82765-S-CP250-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: P311653
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: 24FCZ2-55HE-UNV-L82765-S-CP250-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" 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: 4833.0 lumens
Efficiency: N/A
Efficacy: 111.6 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

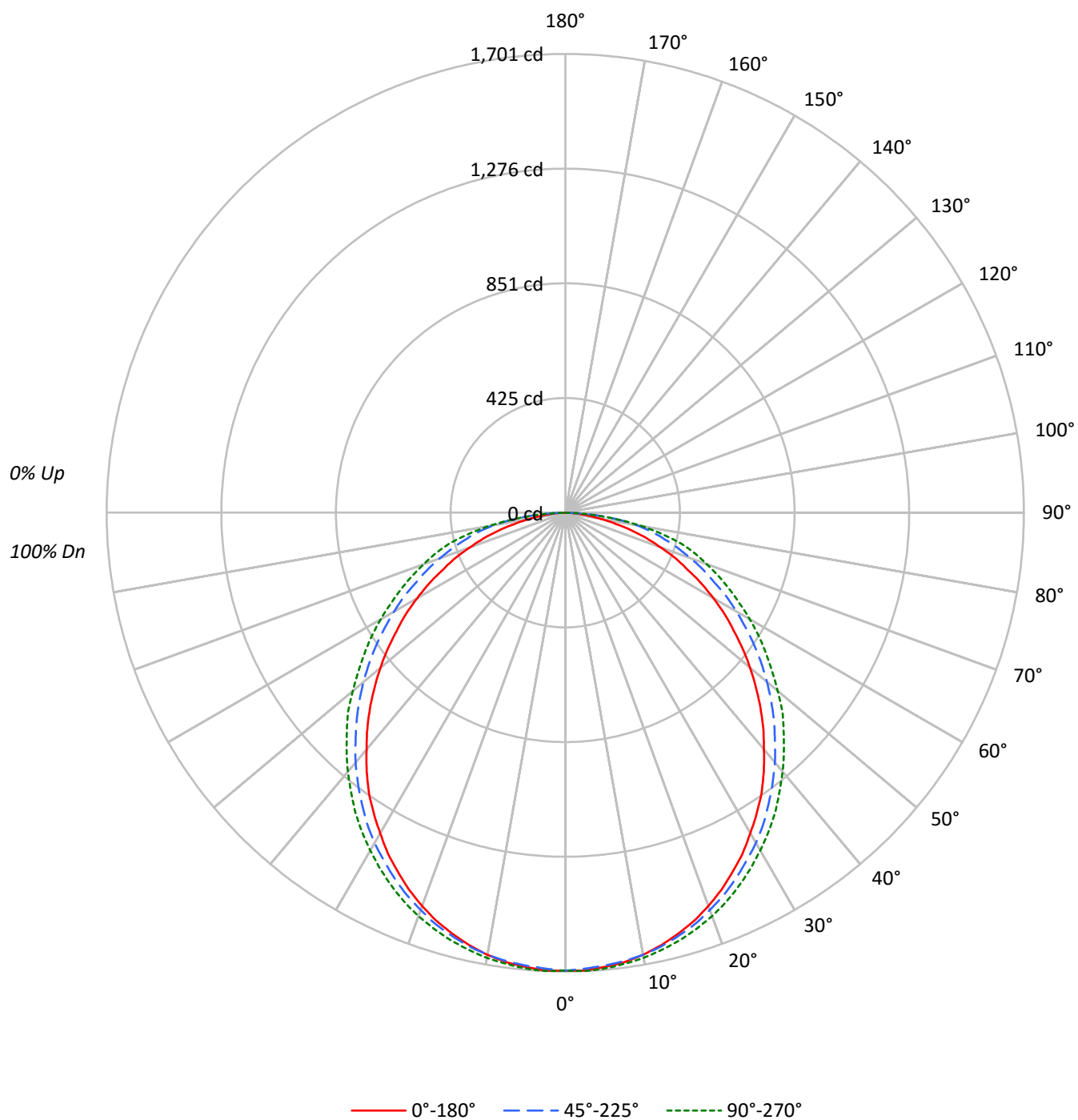
Input Watts (W): 43.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
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°	2285	2285	2285
5°	2283	2277	2291
10°	2274	2274	2290
15°	2252	2262	2286
20°	2222	2244	2279
25°	2181	2222	2265
30°	2132	2197	2247
35°	2085	2161	2229
40°	2014	2125	2203
45°	1948	2083	2179
50°	1873	2044	2153
55°	1790	2006	2132
60°	1706	1975	2127
65°	1598	1940	2141
70°	1480	1951	2198
75°	1325	1987	2322
80°	1071	2105	2272
85°	806	1848	1802



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	160.7	3.3
10°-20°	459.3	9.5
20°-30°	690.4	14.3
30°-40°	822.4	17.0
40°-50°	841.7	17.4
50°-60°	757.8	15.7
60°-70°	595.1	12.3
70°-80°	386.2	8.0
80°-90°	119.4	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°	1310.4	27.1
0°-40°	2132.8	44.1
0°-60°	3732.3	77.2
0°-90°	4833.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4833.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1698	1698	1698	1698	1698	
5°	1690	1693	1686	1695	1696	161
15°	1616	1621	1624	1638	1641	456
25°	1469	1481	1497	1521	1526	677
35°	1270	1285	1316	1348	1357	792
45°	1024	1048	1095	1136	1145	789
55°	763	797	855	900	909	684
65°	502	540	610	660	672	500
75°	255	304	382	434	447	270
85°	52	97	120	117	117	63
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1697.9	1697.9	1697.9	1697.9	1697.9
2.5°	1699.4	1699.4	1691.7	1699.4	1700.9
5°	1690.2	1693.3	1685.6	1694.8	1696.3
7.5°	1681.0	1681.0	1676.4	1685.6	1687.1
10°	1664.1	1665.6	1664.1	1674.8	1676.4
12.5°	1642.6	1645.7	1647.2	1658.0	1659.5
15°	1616.5	1621.1	1624.2	1638.0	1641.1
17.5°	1587.3	1591.9	1599.6	1615.0	1618.0
20°	1552.0	1558.2	1567.4	1587.3	1591.9
22.5°	1513.6	1519.8	1535.1	1553.6	1561.2
25°	1469.1	1481.4	1496.8	1521.3	1525.9
27.5°	1424.6	1435.4	1455.3	1481.4	1487.6
30°	1372.4	1389.3	1413.9	1440.0	1446.1
32.5°	1321.8	1338.6	1367.8	1395.4	1403.1
35°	1269.6	1284.9	1315.6	1347.9	1357.1
37.5°	1209.7	1229.6	1263.4	1295.7	1304.9
40°	1146.7	1171.3	1209.7	1243.5	1254.2
42.5°	1086.9	1113.0	1151.4	1188.2	1200.5
45°	1023.9	1048.5	1094.6	1136.0	1145.2
47.5°	959.5	987.1	1036.2	1077.7	1093.0
50°	895.0	924.2	976.3	1019.3	1028.5
52.5°	830.5	861.2	916.5	962.5	967.1
55°	763.0	796.7	855.1	899.6	908.8
57.5°	701.6	730.7	793.7	839.7	850.5
60°	634.0	666.3	733.8	776.8	790.6
62.5°	569.5	603.3	673.9	716.9	729.2
65°	502.0	540.4	609.5	660.1	672.4
67.5°	443.7	480.5	554.2	603.3	615.6
70°	376.1	417.6	495.9	546.5	558.8
72.5°	317.8	360.8	439.0	488.2	506.6
75°	254.8	304.0	382.2	434.4	446.7
77.5°	193.4	250.2	330.1	370.0	370.0
80°	138.2	198.0	271.7	290.1	293.2
82.5°	90.6	148.9	201.1	199.6	199.6
85°	52.2	96.7	119.7	116.7	116.7
87.5°	20.0	39.9	43.0	43.0	41.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)