

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: P314344

Luminaire Tested: **24FCZ2-45-UNV-L83050-S-CA08-W2A-U-5000K**

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: P314344
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: 24FCZ2-45-UNV-L83050-S-CA08-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 5000K 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: 4615.0 lumens
Efficiency: N/A
Efficacy: 117.1 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

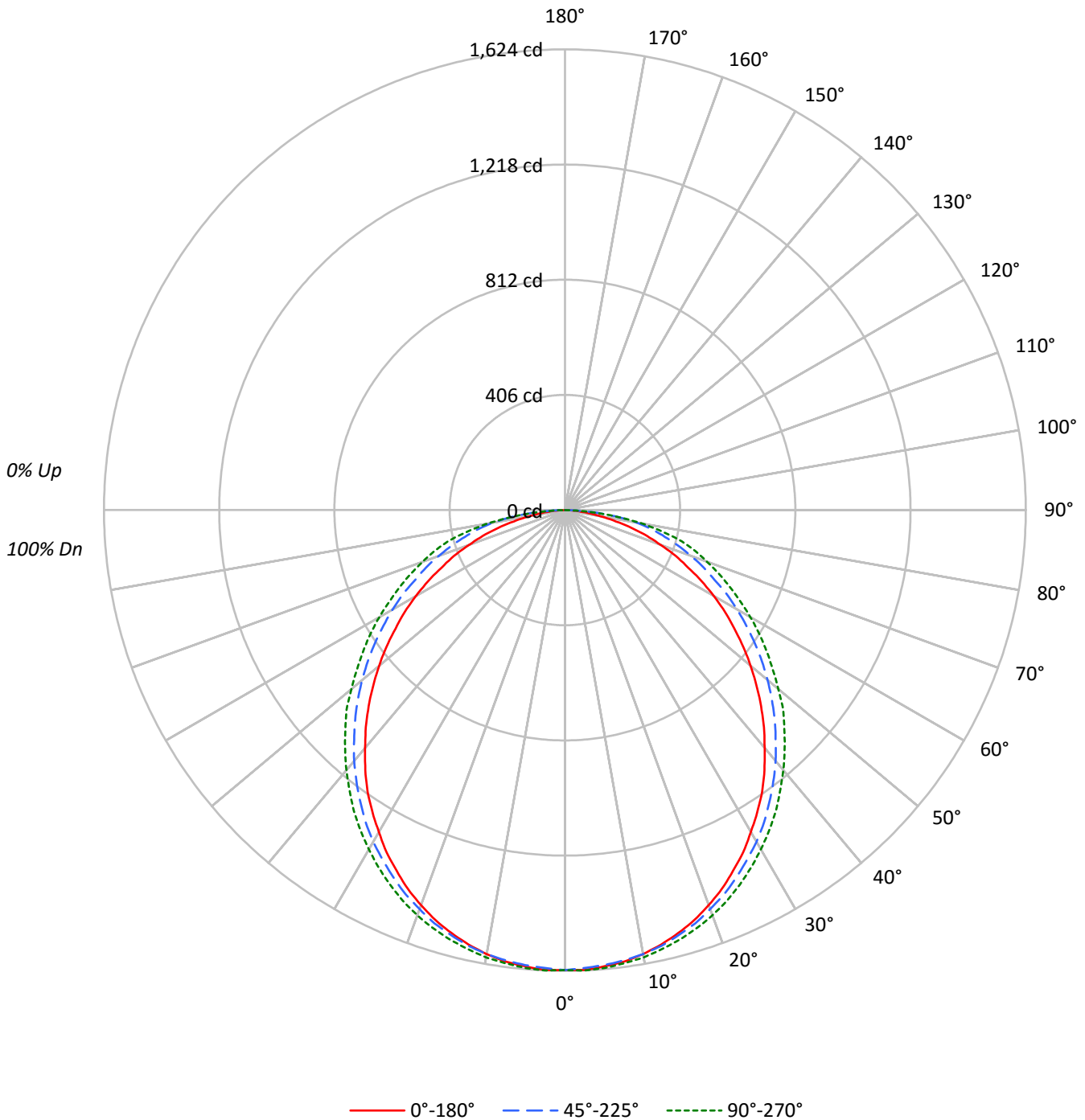
Input Watts (W): 39.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2181	2181	2181
5°	2180	2174	2188
10°	2171	2171	2187
15°	2150	2160	2183
20°	2122	2143	2177
25°	2083	2122	2163
30°	2036	2098	2145
35°	1991	2064	2129
40°	1923	2029	2103
45°	1861	1989	2081
50°	1789	1951	2056
55°	1709	1915	2036
60°	1629	1886	2031
65°	1526	1853	2044
70°	1413	1863	2099
75°	1265	1897	2218
80°	1022	2011	2170
85°	769	1765	1720



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.5	3.3
10°-20°	438.6	9.5
20°-30°	659.3	14.3
30°-40°	785.3	17.0
40°-50°	803.7	17.4
50°-60°	723.6	15.7
60°-70°	568.2	12.3
70°-80°	368.8	8.0
80°-90°	114.1	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°	1251.3	27.1
0°-40°	2036.6	44.1
0°-60°	3563.9	77.2
0°-90°	4615.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4615.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1621	1621	1621	1621	1621	
5°	1614	1617	1610	1618	1620	153
15°	1544	1548	1551	1564	1567	435
25°	1403	1415	1429	1453	1457	646
35°	1212	1227	1256	1287	1296	756
45°	978	1001	1045	1085	1094	754
55°	728	761	816	859	868	653
65°	479	516	582	630	642	477
75°	243	290	365	415	427	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°	1621.3	1621.3	1621.3	1621.3	1621.3
2.5°	1622.7	1622.7	1615.4	1622.7	1624.2
5°	1614.0	1616.9	1609.6	1618.3	1619.8
7.5°	1605.2	1605.2	1600.8	1609.6	1611.0
10°	1589.0	1590.5	1589.0	1599.3	1600.8
12.5°	1568.5	1571.4	1572.9	1583.2	1584.6
15°	1543.6	1548.0	1550.9	1564.1	1567.0
17.5°	1515.7	1520.1	1527.5	1542.1	1545.1
20°	1482.0	1487.9	1496.7	1515.7	1520.1
22.5°	1445.4	1451.2	1465.9	1483.5	1490.8
25°	1402.9	1414.6	1429.2	1452.7	1457.1
27.5°	1360.4	1370.6	1389.7	1414.6	1420.5
30°	1310.5	1326.6	1350.1	1375.0	1380.9
32.5°	1262.1	1278.3	1306.1	1332.5	1339.8
35°	1212.3	1227.0	1256.3	1287.1	1295.9
37.5°	1155.1	1174.2	1206.4	1237.2	1246.0
40°	1095.0	1118.5	1155.1	1187.4	1197.6
42.5°	1037.9	1062.8	1099.4	1134.6	1146.3
45°	977.8	1001.2	1045.2	1084.8	1093.6
47.5°	916.2	942.6	989.5	1029.1	1043.7
50°	854.6	882.5	932.3	973.4	982.1
52.5°	793.0	822.4	875.1	919.1	923.5
55°	728.5	760.8	816.5	859.0	867.8
57.5°	669.9	697.8	757.9	801.8	812.1
60°	605.4	636.2	700.7	741.7	754.9
62.5°	543.8	576.1	643.5	684.6	696.3
65°	479.3	516.0	582.0	630.3	642.1
67.5°	423.6	458.8	529.2	576.1	587.8
70°	359.1	398.7	473.5	521.9	533.6
72.5°	303.4	344.5	419.2	466.2	483.7
75°	243.3	290.2	365.0	414.8	426.6
77.5°	184.7	238.9	315.2	353.3	353.3
80°	131.9	189.1	259.5	277.1	280.0
82.5°	86.5	142.2	192.0	190.6	190.6
85°	49.8	92.4	114.3	111.4	111.4
87.5°	19.1	38.1	41.0	41.0	39.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)