

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: P311566

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-S-CP250-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: P311566
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-CP250-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (336) 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: 4614.0 lumens
Efficiency: N/A
Efficacy: 117.4 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

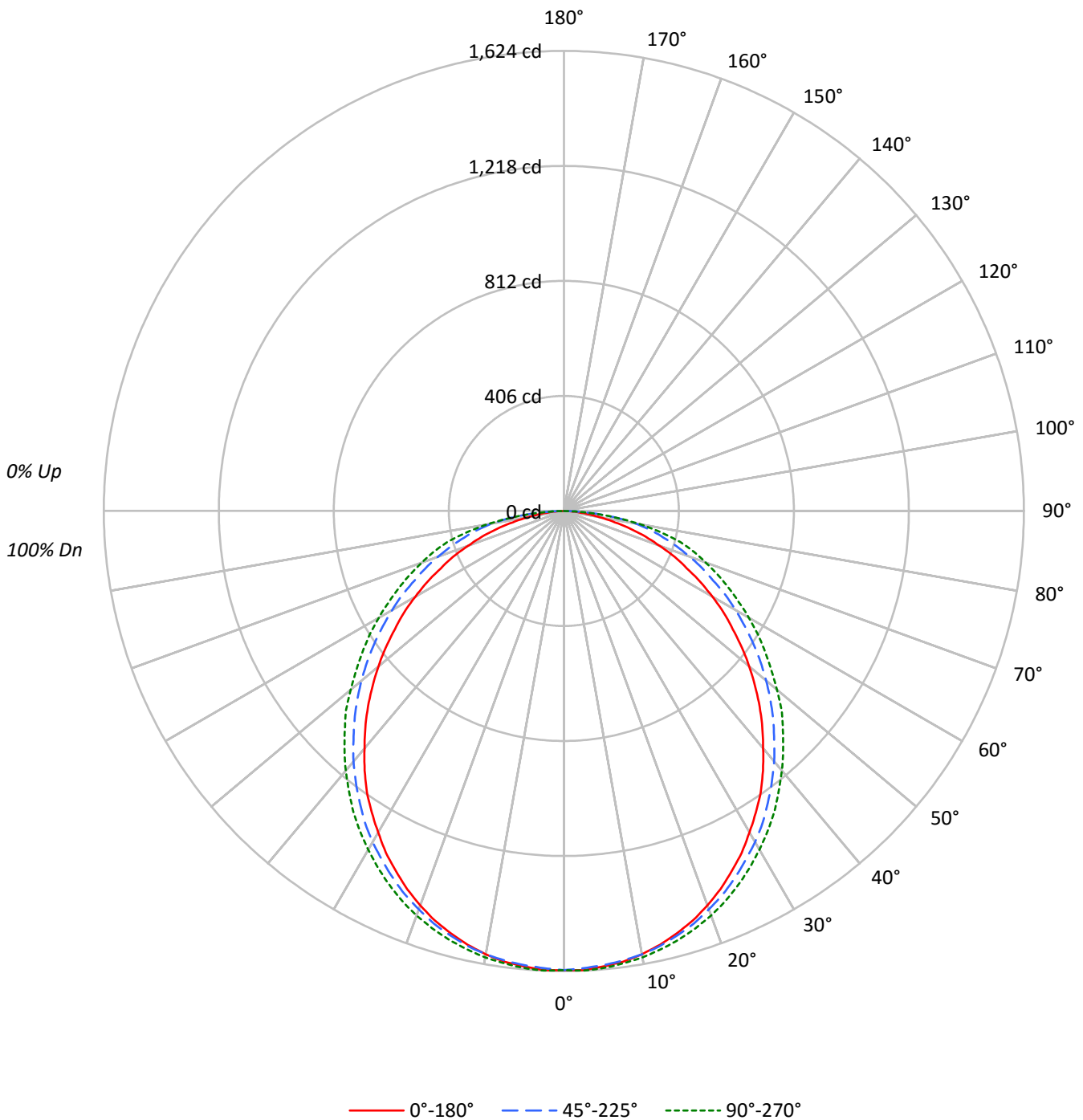
Input Watts (W): 39.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2179	2173	2187
10°	2171	2171	2187
15°	2150	2160	2182
20°	2122	2143	2176
25°	2082	2121	2163
30°	2036	2097	2145
35°	1991	2063	2128
40°	1923	2028	2103
45°	1860	1988	2080
50°	1788	1951	2055
55°	1709	1915	2035
60°	1629	1885	2031
65°	1526	1852	2044
70°	1413	1862	2099
75°	1265	1897	2217
80°	1022	2010	2169
85°	769	1765	1720



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.5	3.3
10°-20°	438.5	9.5
20°-30°	659.1	14.3
30°-40°	785.1	17.0
40°-50°	803.5	17.4
50°-60°	723.4	15.7
60°-70°	568.1	12.3
70°-80°	368.7	8.0
80°-90°	114.0	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°	1251.1	27.1
0°-40°	2036.2	44.1
0°-60°	3563.1	77.2
0°-90°	4614.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4614.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1621	1621	1621	1621	1621	
5°	1614	1616	1609	1618	1620	153
15°	1543	1548	1551	1564	1567	435
25°	1403	1414	1429	1452	1457	646
35°	1212	1227	1256	1287	1296	756
45°	978	1001	1045	1084	1093	754
55°	728	761	816	859	868	653
65°	479	516	582	630	642	477
75°	243	290	365	415	426	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°	1620.9	1620.9	1620.9	1620.9	1620.9
2.5°	1622.4	1622.4	1615.1	1622.4	1623.9
5°	1613.6	1616.5	1609.2	1618.0	1619.5
7.5°	1604.8	1604.8	1600.4	1609.2	1610.7
10°	1588.7	1590.2	1588.7	1598.9	1600.4
12.5°	1568.2	1571.1	1572.6	1582.8	1584.3
15°	1543.3	1547.6	1550.6	1563.8	1566.7
17.5°	1515.4	1519.8	1527.1	1541.8	1544.7
20°	1481.7	1487.6	1496.4	1515.4	1519.8
22.5°	1445.1	1450.9	1465.6	1483.2	1490.5
25°	1402.6	1414.3	1428.9	1452.4	1456.8
27.5°	1360.1	1370.3	1389.4	1414.3	1420.1
30°	1310.2	1326.3	1349.8	1374.7	1380.6
32.5°	1261.9	1278.0	1305.8	1332.2	1339.5
35°	1212.0	1226.7	1256.0	1286.8	1295.6
37.5°	1154.9	1173.9	1206.2	1236.9	1245.7
40°	1094.8	1118.2	1154.9	1187.1	1197.4
42.5°	1037.6	1062.5	1099.2	1134.4	1146.1
45°	977.5	1001.0	1045.0	1084.5	1093.3
47.5°	916.0	942.4	989.3	1028.8	1043.5
50°	854.4	882.3	932.1	973.1	981.9
52.5°	792.9	822.2	874.9	918.9	923.3
55°	728.4	760.6	816.3	858.8	867.6
57.5°	669.8	697.6	757.7	801.7	811.9
60°	605.3	636.1	700.5	741.6	754.8
62.5°	543.7	576.0	643.4	684.4	696.1
65°	479.2	515.9	581.8	630.2	641.9
67.5°	423.6	458.7	529.1	576.0	587.7
70°	359.1	398.6	473.4	521.7	533.5
72.5°	303.4	344.4	419.2	466.1	483.6
75°	243.3	290.2	364.9	414.8	426.5
77.5°	184.7	238.9	315.1	353.2	353.2
80°	131.9	189.1	259.4	277.0	279.9
82.5°	86.5	142.2	192.0	190.5	190.5
85°	49.8	92.3	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)