

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: P310814

Luminaire Tested: **24FCZ2-45-UNV-L82765-CA125-W2A-U-2700K**

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: P310814
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
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-L82765-CA125-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" ACRYLIC SHEET
Light Source: (168) 2700K 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: 3789.0 lumens
Efficiency: N/A
Efficacy: 100.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

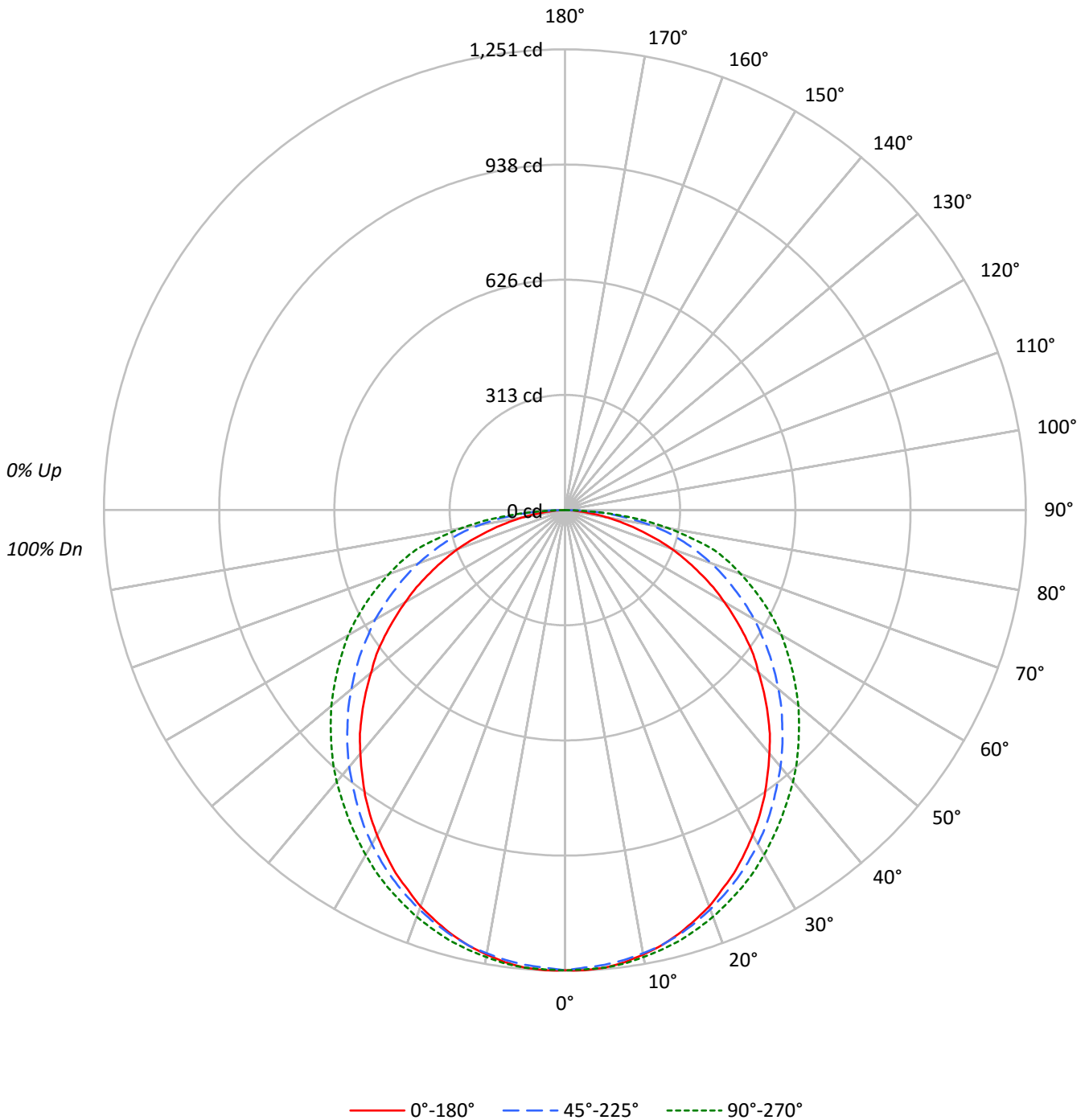
Input Watts (W): 37.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1681	1681	1681
5°	1684	1674	1684
10°	1675	1669	1683
15°	1660	1664	1685
20°	1640	1652	1683
25°	1614	1640	1682
30°	1584	1627	1680
35°	1553	1611	1681
40°	1517	1599	1691
45°	1481	1588	1705
50°	1437	1584	1732
55°	1401	1586	1766
60°	1346	1600	1827
65°	1285	1617	1893
70°	1217	1667	1998
75°	1085	1738	2183
80°	925	1841	2231
85°	659	1825	2135



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.3	3.1
10°-20°	338.1	8.9
20°-30°	510.7	13.5
30°-40°	615.6	16.2
40°-50°	646.2	17.1
50°-60°	604.6	16.0
60°-70°	499.3	13.2
70°-80°	340.2	9.0
80°-90°	116.0	3.1
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°	967.1	25.5
0°-40°	1582.7	41.8
0°-60°	2833.5	74.8
0°-90°	3789.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3789.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1250	1250	1250	1250	1250	
5°	1247	1246	1240	1247	1247	118
15°	1192	1193	1194	1207	1209	336
25°	1087	1092	1105	1126	1133	500
35°	945	955	981	1013	1023	591
45°	778	794	835	880	896	600
55°	597	621	676	732	753	533
65°	404	438	508	572	595	400
75°	209	256	334	397	420	223
85°	43	84	118	133	138	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1249.6	1249.6	1249.6	1249.6	1249.6
2.5°	1250.8	1249.6	1243.3	1249.6	1248.3
5°	1247.1	1245.8	1239.5	1247.1	1247.1
7.5°	1238.3	1238.3	1232.0	1240.8	1242.0
10°	1225.7	1225.7	1221.9	1232.0	1232.0
12.5°	1210.6	1210.6	1210.6	1220.7	1221.9
15°	1191.8	1193.0	1194.3	1206.8	1209.4
17.5°	1169.1	1171.6	1175.4	1190.5	1193.0
20°	1145.2	1147.8	1154.0	1171.6	1175.4
22.5°	1115.1	1121.4	1130.2	1150.3	1154.0
25°	1087.4	1092.4	1105.0	1126.4	1132.7
27.5°	1053.5	1061.0	1077.4	1100.0	1108.8
30°	1019.5	1027.1	1047.2	1073.6	1081.1
32.5°	983.1	994.4	1015.8	1043.4	1052.2
35°	945.4	955.4	980.6	1013.2	1023.3
37.5°	903.9	917.7	945.4	980.6	993.1
40°	863.6	878.7	910.2	947.9	963.0
42.5°	823.4	838.5	873.7	916.4	931.5
45°	778.2	794.5	834.7	880.0	896.3
47.5°	732.9	753.0	797.0	844.8	862.4
50°	686.4	709.0	756.8	807.1	827.2
52.5°	644.9	666.3	716.6	770.6	789.5
55°	597.1	621.0	676.3	731.6	753.0
57.5°	548.1	574.5	633.6	693.9	715.3
60°	500.3	529.2	594.6	655.0	678.8
62.5°	453.8	482.7	550.6	613.5	637.4
65°	403.5	437.5	507.9	572.0	594.6
67.5°	355.8	392.2	466.4	529.2	551.9
70°	309.3	344.5	423.7	485.2	507.9
72.5°	259.0	299.2	378.4	442.5	466.4
75°	208.7	256.5	334.4	397.3	419.9
77.5°	162.2	211.2	289.1	340.7	352.0
80°	119.4	169.7	237.6	274.1	287.9
82.5°	76.7	127.0	181.0	207.4	218.7
85°	42.7	84.2	118.2	133.3	138.3
87.5°	17.6	36.5	47.8	54.1	54.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)