

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: P310811

Luminaire Tested: **24FCZ2-45-UNV-L82765-CA08-W2A-U-5500K**

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: P310811
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-CA08-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 5500K 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: 4309.0 lumens
Efficiency: N/A
Efficacy: 111.3 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

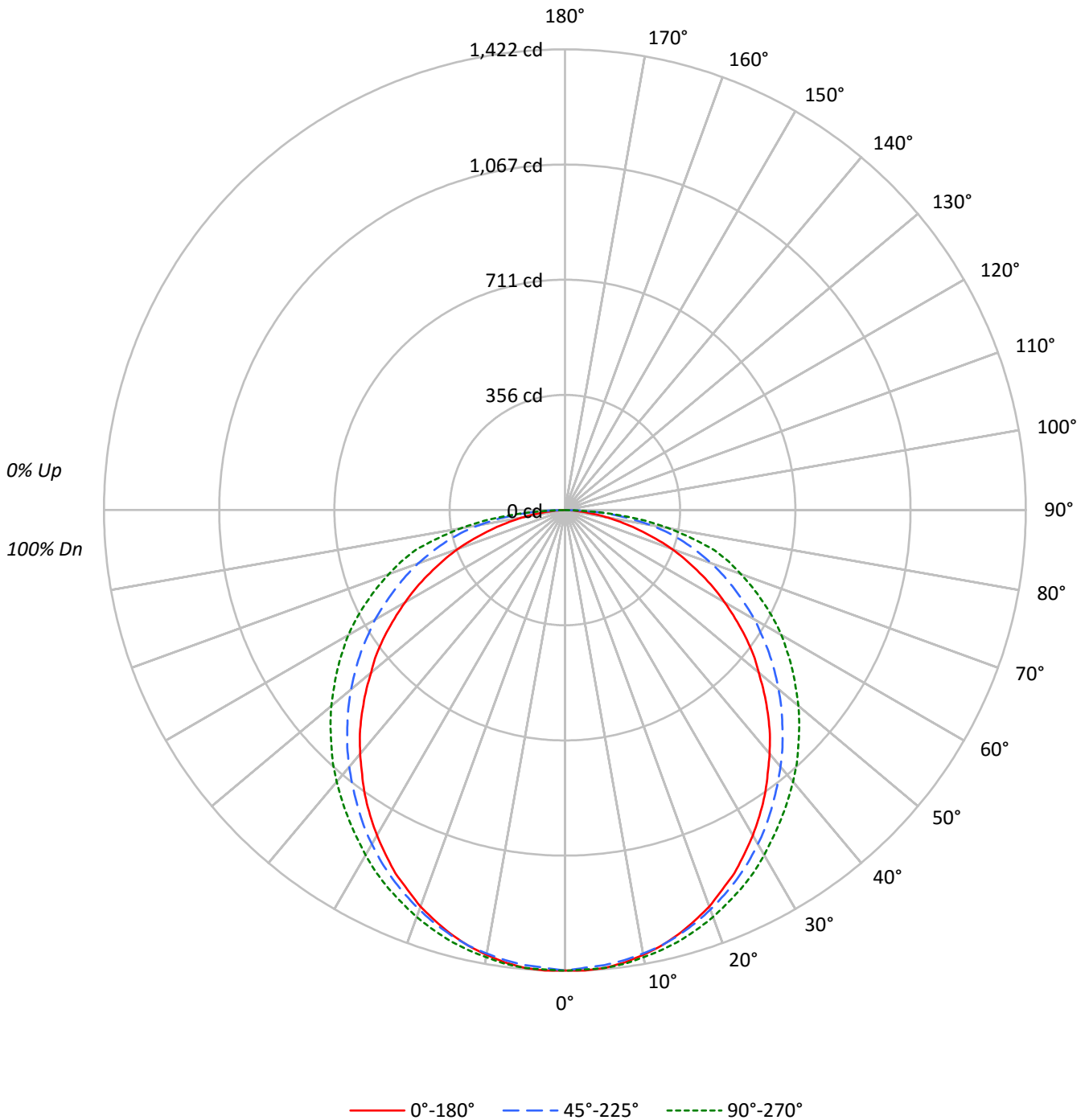
Input Watts (W): 38.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1912	1912	1912
5°	1915	1904	1915
10°	1904	1899	1914
15°	1888	1892	1916
20°	1865	1879	1914
25°	1836	1866	1912
30°	1801	1850	1910
35°	1766	1832	1911
40°	1725	1818	1923
45°	1684	1806	1940
50°	1634	1801	1969
55°	1593	1804	2009
60°	1531	1820	2077
65°	1461	1839	2153
70°	1384	1895	2272
75°	1234	1977	2482
80°	1052	2094	2537
85°	750	2075	2428



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.5	3.1
10°-20°	384.6	8.9
20°-30°	580.8	13.5
30°-40°	700.0	16.2
40°-50°	734.9	17.1
50°-60°	687.5	16.0
60°-70°	567.8	13.2
70°-80°	386.9	9.0
80°-90°	132.0	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°	1099.9	25.5
0°-40°	1799.9	41.8
0°-60°	3222.3	74.8
0°-90°	4309.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4309.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1421	1421	1421	1421	1421	
5°	1418	1417	1410	1418	1418	135
15°	1355	1357	1358	1372	1375	382
25°	1237	1242	1257	1281	1288	569
35°	1075	1086	1115	1152	1164	672
45°	885	904	949	1001	1019	683
55°	679	706	769	832	856	606
65°	459	498	578	650	676	455
75°	237	292	380	452	478	253
85°	49	96	134	152	157	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1421.1	1421.1	1421.1	1421.1	1421.1
2.5°	1422.5	1421.1	1413.9	1421.1	1419.6
5°	1418.2	1416.8	1409.6	1418.2	1418.2
7.5°	1408.2	1408.2	1401.1	1411.1	1412.5
10°	1393.9	1393.9	1389.6	1401.1	1401.1
12.5°	1376.8	1376.8	1376.8	1388.2	1389.6
15°	1355.3	1356.7	1358.2	1372.5	1375.3
17.5°	1329.6	1332.4	1336.7	1353.9	1356.7
20°	1302.4	1305.3	1312.4	1332.4	1336.7
22.5°	1268.1	1275.2	1285.3	1308.1	1312.4
25°	1236.6	1242.4	1256.7	1281.0	1288.1
27.5°	1198.0	1206.6	1225.2	1250.9	1261.0
30°	1159.4	1168.0	1190.9	1220.9	1229.5
32.5°	1118.0	1130.9	1155.2	1186.6	1196.6
35°	1075.1	1086.5	1115.1	1152.3	1163.7
37.5°	1027.9	1043.6	1075.1	1115.1	1129.4
40°	982.2	999.3	1035.1	1078.0	1095.1
42.5°	936.4	953.6	993.6	1042.2	1059.4
45°	885.0	903.5	949.3	1000.8	1019.3
47.5°	833.5	856.4	906.4	960.7	980.7
50°	780.6	806.3	860.6	917.8	940.7
52.5°	733.4	757.7	814.9	876.4	897.8
55°	679.1	706.2	769.2	832.1	856.4
57.5°	623.3	653.3	720.5	789.2	813.5
60°	569.0	601.9	676.2	744.8	772.0
62.5°	516.1	549.0	626.2	697.7	724.8
65°	458.9	497.5	577.6	650.5	676.2
67.5°	404.6	446.1	530.4	601.9	627.6
70°	351.7	391.7	481.8	551.8	577.6
72.5°	294.5	340.3	430.3	503.2	530.4
75°	237.3	291.6	380.3	451.8	477.5
77.5°	184.4	240.2	328.8	387.4	400.3
80°	135.8	193.0	270.2	311.7	327.4
82.5°	87.2	144.4	205.9	235.9	248.8
85°	48.6	95.8	134.4	151.5	157.3
87.5°	20.0	41.5	54.3	61.5	61.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)