

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: P310935

Luminaire Tested: **24FCZ2-50-UNV-L82765-CP250-W2A-U-4500K**

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: P310935
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: 24FCZ2-50-UNV-L82765-CP250-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (168) 4500K 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: 4311.0 lumens
Efficiency: N/A
Efficacy: 99.1 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

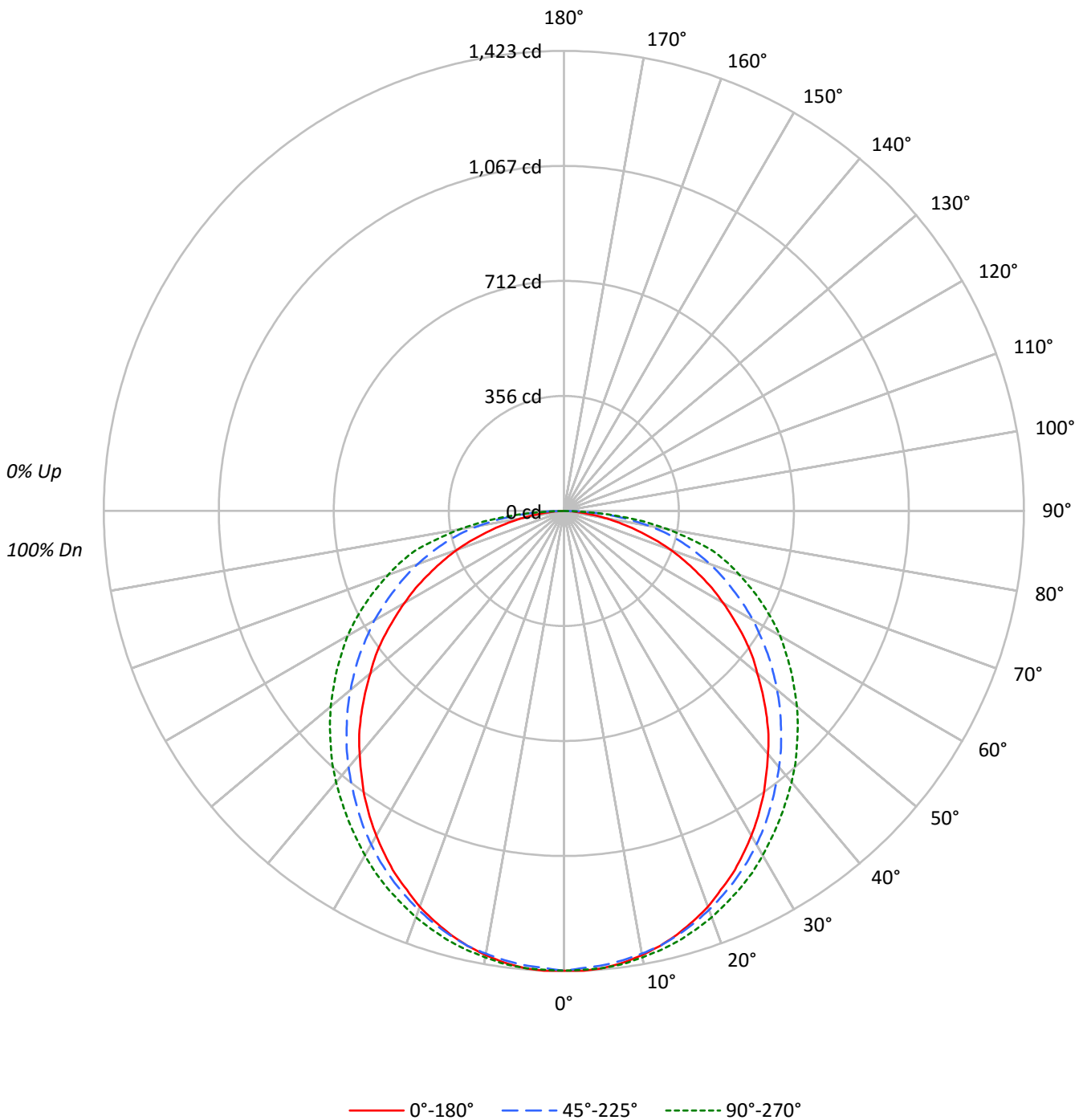
Input Watts (W): 43.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1913	1913	1913
5°	1916	1905	1916
10°	1905	1899	1915
15°	1889	1893	1917
20°	1866	1880	1915
25°	1837	1866	1913
30°	1802	1851	1911
35°	1767	1832	1912
40°	1726	1819	1924
45°	1685	1807	1940
50°	1635	1802	1970
55°	1594	1805	2010
60°	1532	1820	2079
65°	1462	1840	2154
70°	1384	1896	2273
75°	1234	1978	2483
80°	1053	2094	2538
85°	750	2075	2428



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.6	3.1
10°-20°	384.7	8.9
20°-30°	581.1	13.5
30°-40°	700.4	16.2
40°-50°	735.3	17.1
50°-60°	687.9	16.0
60°-70°	568.1	13.2
70°-80°	387.1	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°	1100.4	25.5
0°-40°	1800.7	41.8
0°-60°	3223.9	74.8
0°-90°	4311.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4311.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1422	1422	1422	1422	1422	
5°	1419	1417	1410	1419	1419	135
15°	1356	1357	1359	1373	1376	382
25°	1237	1243	1257	1282	1289	569
35°	1076	1087	1116	1153	1164	672
45°	885	904	950	1001	1020	683
55°	679	707	770	832	857	606
65°	459	498	578	651	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°	1421.7	1421.7	1421.7	1421.7	1421.7
2.5°	1423.2	1421.7	1414.6	1421.7	1420.3
5°	1418.9	1417.4	1410.3	1418.9	1418.9
7.5°	1408.9	1408.9	1401.7	1411.7	1413.1
10°	1394.6	1394.6	1390.3	1401.7	1401.7
12.5°	1377.4	1377.4	1377.4	1388.8	1390.3
15°	1355.9	1357.4	1358.8	1373.1	1376.0
17.5°	1330.2	1333.1	1337.3	1354.5	1357.4
20°	1303.0	1305.9	1313.0	1333.1	1337.3
22.5°	1268.7	1275.8	1285.9	1308.7	1313.0
25°	1237.2	1242.9	1257.2	1281.6	1288.7
27.5°	1198.6	1207.2	1225.8	1251.5	1261.5
30°	1160.0	1168.6	1191.5	1221.5	1230.1
32.5°	1118.5	1131.4	1155.7	1187.2	1197.2
35°	1075.6	1087.0	1115.6	1152.8	1164.3
37.5°	1028.4	1044.1	1075.6	1115.6	1129.9
40°	982.6	999.8	1035.5	1078.5	1095.6
42.5°	936.9	954.0	994.1	1042.7	1059.9
45°	885.4	904.0	949.7	1001.2	1019.8
47.5°	833.9	856.8	906.8	961.2	981.2
50°	781.0	806.7	861.0	918.3	941.1
52.5°	733.8	758.1	815.3	876.8	898.2
55°	679.4	706.6	769.5	832.4	856.8
57.5°	623.6	653.7	720.9	789.5	813.8
60°	569.3	602.2	676.5	745.2	772.4
62.5°	516.3	549.2	626.5	698.0	725.2
65°	459.1	497.7	577.8	650.8	676.5
67.5°	404.8	446.3	530.6	602.2	627.9
70°	351.9	391.9	482.0	552.1	577.8
72.5°	294.6	340.4	430.5	503.5	530.6
75°	237.4	291.8	380.5	452.0	477.7
77.5°	184.5	240.3	329.0	387.6	400.5
80°	135.9	193.1	270.3	311.8	327.5
82.5°	87.2	144.5	206.0	236.0	248.9
85°	48.6	95.8	134.4	151.6	157.3
87.5°	20.0	41.5	54.4	61.5	61.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)