

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: P311396

Luminaire Tested: **24FCZ2-40-UNV-L82765-S-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: P311396
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: 24FCZ2-40-UNV-L82765-S-CA08-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH 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

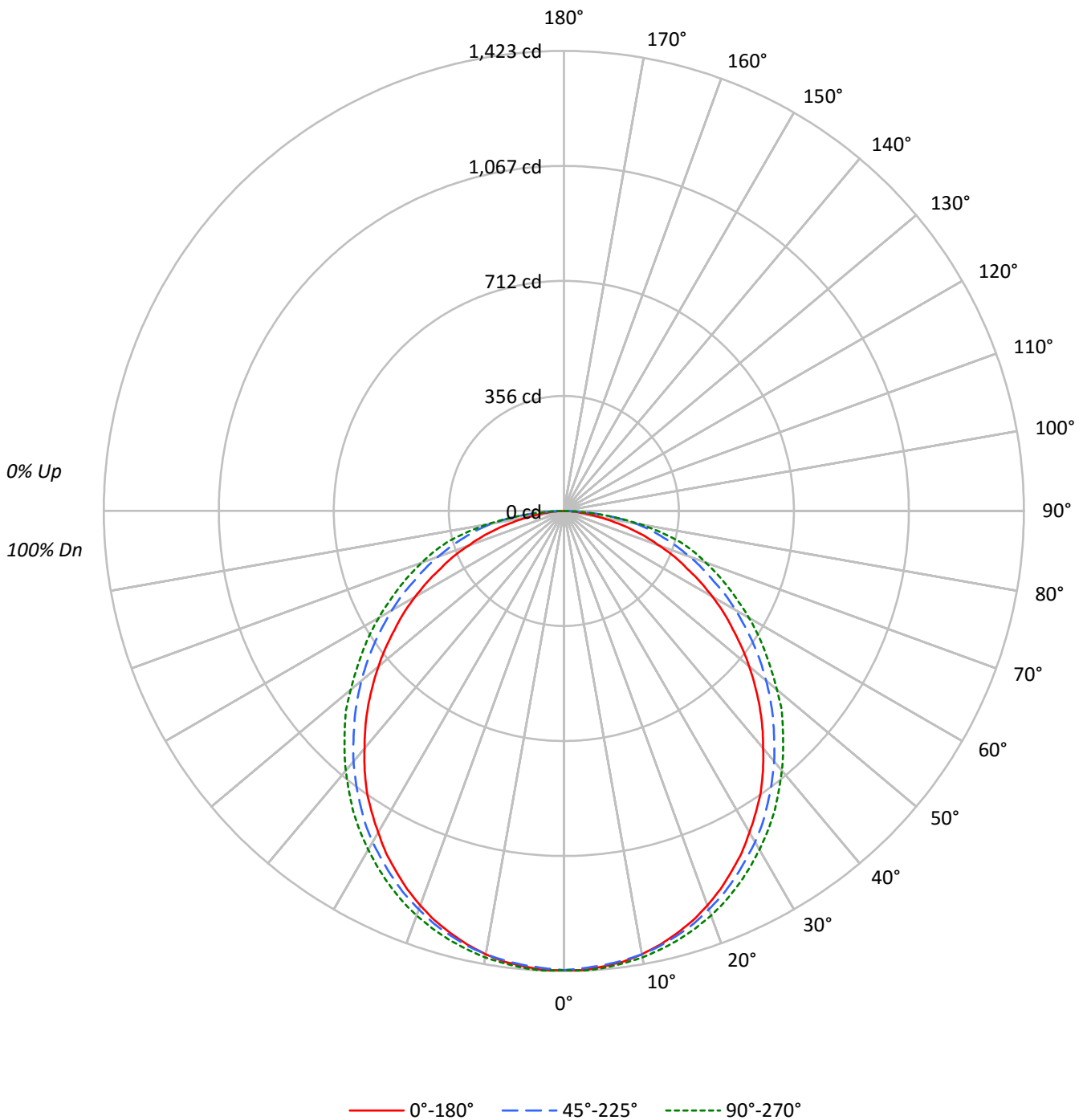
Lumens per Lamp: N/A
Luminaire Lumens: 4043.0 lumens
Efficiency: N/A
Efficacy: 120.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.6
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	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°	1911	1911	1911
5°	1910	1905	1917
10°	1902	1902	1916
15°	1884	1893	1912
20°	1859	1877	1907
25°	1825	1859	1895
30°	1784	1838	1879
35°	1744	1808	1865
40°	1685	1777	1843
45°	1630	1742	1823
50°	1567	1710	1801
55°	1497	1678	1784
60°	1427	1652	1780
65°	1337	1623	1791
70°	1238	1632	1839
75°	1108	1663	1943
80°	896	1761	1901
85°	675	1547	1507



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.5	3.3
10°-20°	384.2	9.5
20°-30°	577.6	14.3
30°-40°	688.0	17.0
40°-50°	704.1	17.4
50°-60°	633.9	15.7
60°-70°	497.8	12.3
70°-80°	323.1	8.0
80°-90°	99.9	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°	1096.2	27.1
0°-40°	1784.2	44.1
0°-60°	3122.2	77.2
0°-90°	4043.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4043.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1420	1420	1420	1420	1420	
5°	1414	1416	1410	1418	1419	134
15°	1352	1356	1359	1370	1373	381
25°	1229	1239	1252	1273	1276	566
35°	1062	1075	1101	1128	1135	663
45°	857	877	916	950	958	660
55°	638	666	715	752	760	572
65°	420	452	510	552	562	418
75°	213	254	320	363	374	226
85°	44	81	100	98	98	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1420.3	1420.3	1420.3	1420.3	1420.3
2.5°	1421.6	1421.6	1415.2	1421.6	1422.9
5°	1413.9	1416.5	1410.1	1417.8	1419.0
7.5°	1406.2	1406.2	1402.4	1410.1	1411.3
10°	1392.1	1393.4	1392.1	1401.1	1402.4
12.5°	1374.1	1376.7	1378.0	1386.9	1388.2
15°	1352.3	1356.1	1358.7	1370.2	1372.8
17.5°	1327.9	1331.7	1338.1	1351.0	1353.6
20°	1298.3	1303.5	1311.2	1327.9	1331.7
22.5°	1266.2	1271.4	1284.2	1299.6	1306.0
25°	1229.0	1239.3	1252.1	1272.6	1276.5
27.5°	1191.7	1200.7	1217.4	1239.3	1244.4
30°	1148.1	1162.2	1182.8	1204.6	1209.7
32.5°	1105.7	1119.8	1144.2	1167.3	1173.8
35°	1062.0	1074.9	1100.6	1127.5	1135.2
37.5°	1012.0	1028.6	1056.9	1083.9	1091.6
40°	959.3	979.8	1012.0	1040.2	1049.2
42.5°	909.2	931.0	963.2	994.0	1004.2
45°	856.6	877.1	915.6	950.3	958.0
47.5°	802.6	825.7	866.8	901.5	914.4
50°	748.7	773.1	816.8	852.7	860.4
52.5°	694.8	720.4	766.7	805.2	809.1
55°	638.3	666.5	715.3	752.5	760.3
57.5°	586.9	611.3	663.9	702.5	711.5
60°	530.4	557.3	613.9	649.8	661.4
62.5°	476.4	504.7	563.8	599.7	610.0
65°	419.9	452.0	509.8	552.2	562.5
67.5°	371.1	402.0	463.6	504.7	515.0
70°	314.6	349.3	414.8	457.2	467.5
72.5°	265.8	301.8	367.3	408.4	423.8
75°	213.2	254.3	319.8	363.4	373.7
77.5°	161.8	209.3	276.1	309.5	309.5
80°	115.6	165.7	227.3	242.7	245.3
82.5°	75.8	124.6	168.2	166.9	166.9
85°	43.7	80.9	100.2	97.6	97.6
87.5°	16.7	33.4	36.0	36.0	34.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)