

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: P311398

Luminaire Tested: **24FCZ2-40-UNV-L82765-S-CA08-W2A-U-6500K**

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: P311398
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-6500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 6500K 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: 4065.0 lumens
Efficiency: N/A
Efficacy: 118.9 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

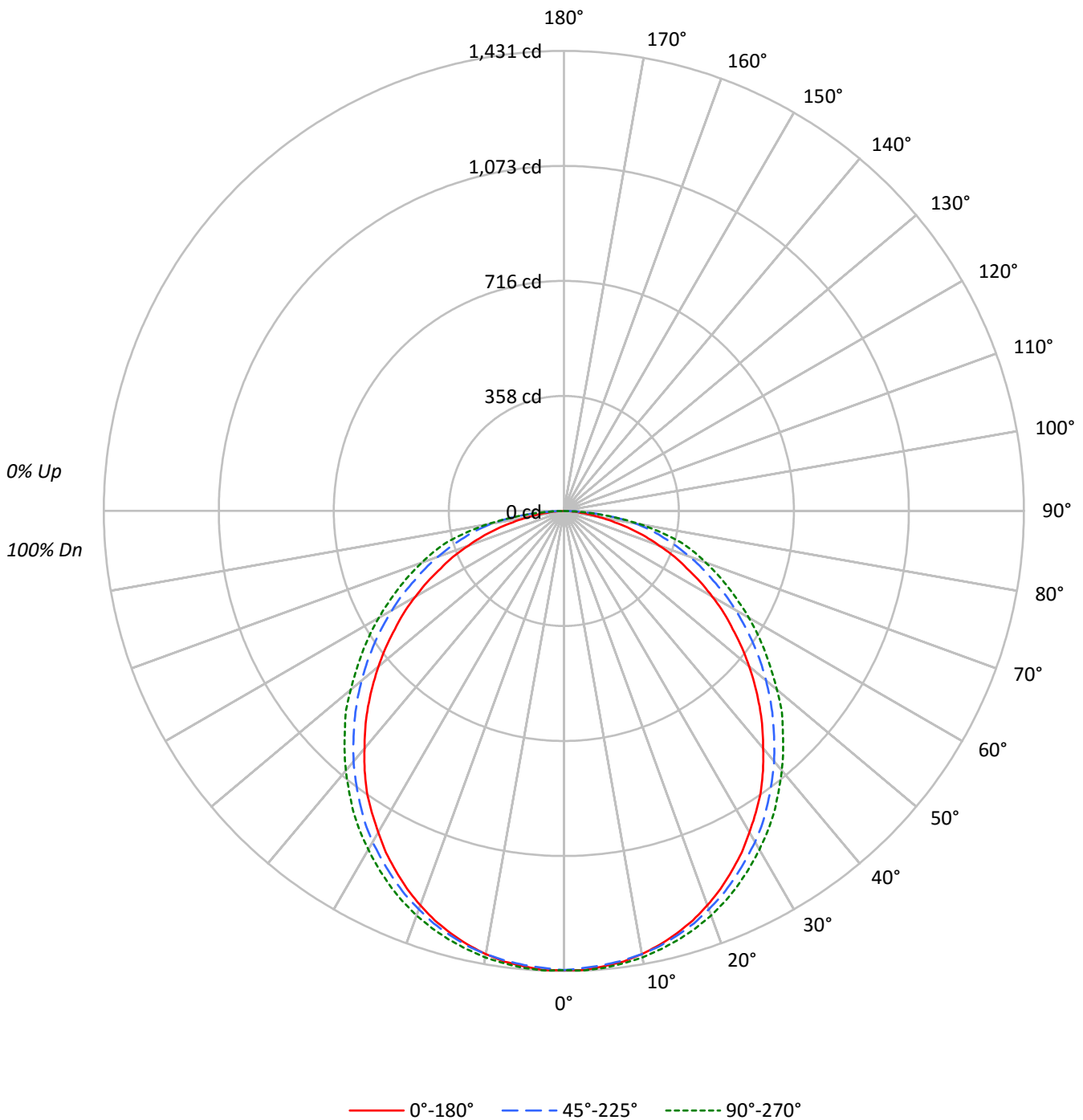
Input Watts (W): 34.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1921	1921	1921
5°	1920	1915	1927
10°	1912	1912	1926
15°	1894	1903	1923
20°	1869	1888	1917
25°	1834	1869	1905
30°	1793	1848	1890
35°	1754	1818	1875
40°	1694	1787	1853
45°	1639	1752	1833
50°	1576	1719	1811
55°	1505	1687	1793
60°	1435	1661	1790
65°	1344	1632	1800
70°	1244	1641	1849
75°	1114	1671	1953
80°	900	1771	1911
85°	678	1555	1514



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.2	3.3
10°-20°	386.3	9.5
20°-30°	580.7	14.3
30°-40°	691.7	17.0
40°-50°	707.9	17.4
50°-60°	637.3	15.7
60°-70°	500.5	12.3
70°-80°	324.8	8.0
80°-90°	100.5	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°	1102.2	27.1
0°-40°	1793.9	44.1
0°-60°	3139.2	77.2
0°-90°	4065.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4065.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1428	1428	1428	1428	1428	
5°	1422	1424	1418	1426	1427	135
15°	1360	1364	1366	1378	1380	383
25°	1236	1246	1259	1280	1283	569
35°	1068	1081	1107	1134	1141	666
45°	861	882	921	956	963	664
55°	642	670	719	757	764	575
65°	422	454	513	555	566	420
75°	214	256	322	365	376	227
85°	44	81	101	98	98	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1428.1	1428.1	1428.1	1428.1	1428.1
2.5°	1429.4	1429.4	1422.9	1429.4	1430.6
5°	1421.6	1424.2	1417.7	1425.5	1426.8
7.5°	1413.9	1413.9	1410.0	1417.7	1419.0
10°	1399.7	1400.9	1399.7	1408.7	1410.0
12.5°	1381.6	1384.2	1385.5	1394.5	1395.8
15°	1359.6	1363.5	1366.1	1377.7	1380.3
17.5°	1335.1	1339.0	1345.4	1358.3	1360.9
20°	1305.4	1310.6	1318.3	1335.1	1339.0
22.5°	1273.1	1278.3	1291.2	1306.7	1313.1
25°	1235.7	1246.0	1258.9	1279.6	1283.4
27.5°	1198.2	1207.3	1224.1	1246.0	1251.2
30°	1154.3	1168.5	1189.2	1211.1	1216.3
32.5°	1111.7	1125.9	1150.5	1173.7	1180.2
35°	1067.8	1080.7	1106.6	1133.7	1141.4
37.5°	1017.5	1034.2	1062.7	1089.8	1097.5
40°	964.5	985.2	1017.5	1045.9	1054.9
42.5°	914.2	936.1	968.4	999.4	1009.7
45°	861.2	881.9	920.6	955.5	963.2
47.5°	807.0	830.2	871.6	906.4	919.3
50°	752.8	777.3	821.2	857.4	865.1
52.5°	698.5	724.4	770.8	809.6	813.5
55°	641.7	670.1	719.2	756.6	764.4
57.5°	590.1	614.6	667.5	706.3	715.3
60°	533.3	560.4	617.2	653.3	665.0
62.5°	479.0	507.4	566.8	603.0	613.3
65°	422.2	454.5	512.6	555.2	565.5
67.5°	373.2	404.1	466.1	507.4	517.8
70°	316.3	351.2	417.1	459.7	470.0
72.5°	267.3	303.4	369.3	410.6	426.1
75°	214.3	255.7	321.5	365.4	375.7
77.5°	162.7	210.5	277.6	311.2	311.2
80°	116.2	166.6	228.5	244.0	246.6
82.5°	76.2	125.2	169.1	167.9	167.9
85°	43.9	81.3	100.7	98.1	98.1
87.5°	16.8	33.6	36.2	36.2	34.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)