

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: P311394

Luminaire Tested: **24FCZ2-40-UNV-L82765-S-CA08-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: P311394
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-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC 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: 3950.0 lumens
Efficiency: N/A
Efficacy: 118.6 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

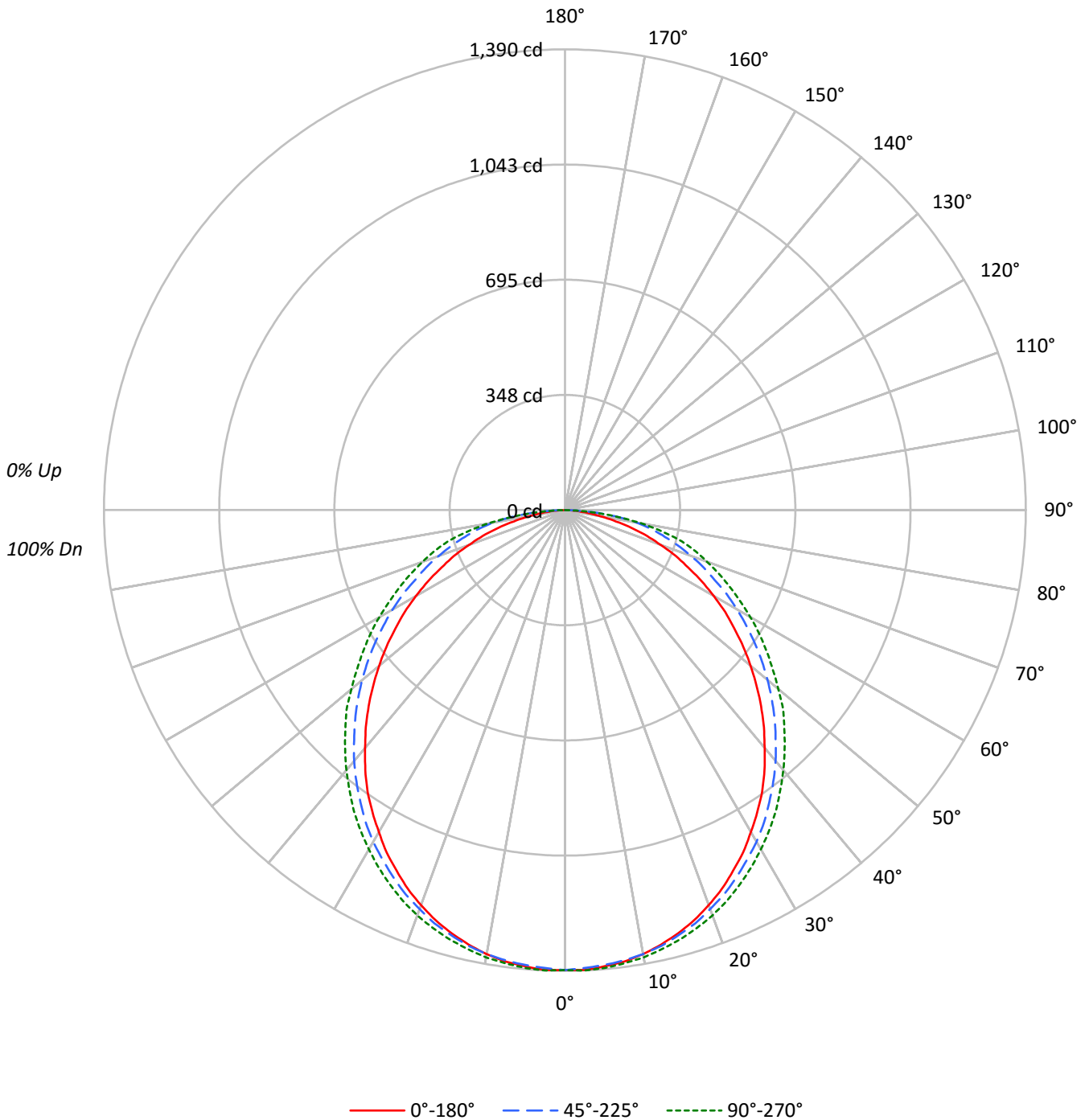
Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1867	1867	1867
5°	1866	1861	1873
10°	1858	1858	1872
15°	1840	1849	1868
20°	1816	1834	1863
25°	1783	1816	1851
30°	1743	1795	1836
35°	1704	1766	1822
40°	1646	1737	1800
45°	1592	1702	1781
50°	1531	1670	1760
55°	1463	1639	1742
60°	1394	1614	1739
65°	1306	1586	1749
70°	1209	1594	1797
75°	1083	1624	1898
80°	875	1721	1857
85°	659	1511	1473



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.4	3.3
10°-20°	375.4	9.5
20°-30°	564.3	14.3
30°-40°	672.1	17.0
40°-50°	687.9	17.4
50°-60°	619.3	15.7
60°-70°	486.4	12.3
70°-80°	315.7	8.0
80°-90°	97.6	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°	1071.0	27.1
0°-40°	1743.2	44.1
0°-60°	3050.4	77.2
0°-90°	3950.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3950.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1388	1388	1388	1388	1388	
5°	1381	1384	1378	1385	1386	131
15°	1321	1325	1327	1339	1341	373
25°	1201	1211	1223	1243	1247	553
35°	1038	1050	1075	1102	1109	647
45°	837	857	895	928	936	645
55°	624	651	699	735	743	559
65°	410	442	498	540	550	408
75°	208	248	312	355	365	220
85°	43	79	98	95	95	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1387.7	1387.7	1387.7	1387.7	1387.7
2.5°	1388.9	1388.9	1382.6	1388.9	1390.2
5°	1381.4	1383.9	1377.6	1385.2	1386.4
7.5°	1373.9	1373.9	1370.1	1377.6	1378.9
10°	1360.1	1361.3	1360.1	1368.8	1370.1
12.5°	1342.5	1345.0	1346.3	1355.0	1356.3
15°	1321.2	1324.9	1327.4	1338.7	1341.2
17.5°	1297.3	1301.1	1307.4	1319.9	1322.4
20°	1268.5	1273.5	1281.0	1297.3	1301.1
22.5°	1237.1	1242.1	1254.7	1269.7	1276.0
25°	1200.7	1210.8	1223.3	1243.4	1247.1
27.5°	1164.3	1173.1	1189.4	1210.8	1215.8
30°	1121.7	1135.5	1155.5	1176.9	1181.9
32.5°	1080.3	1094.1	1117.9	1140.5	1146.8
35°	1037.6	1050.2	1075.2	1101.6	1109.1
37.5°	988.7	1005.0	1032.6	1058.9	1066.5
40°	937.2	957.3	988.7	1016.3	1025.1
42.5°	888.3	909.6	941.0	971.1	981.1
45°	836.9	856.9	894.6	928.5	936.0
47.5°	784.2	806.8	846.9	880.8	893.3
50°	731.5	755.3	798.0	833.1	840.6
52.5°	678.8	703.9	749.0	786.7	790.4
55°	623.6	651.2	698.8	735.2	742.8
57.5°	573.4	597.2	648.7	686.3	695.1
60°	518.2	544.5	599.7	634.9	646.2
62.5°	465.5	493.1	550.8	585.9	596.0
65°	410.3	441.6	498.1	539.5	549.5
67.5°	362.6	392.7	452.9	493.1	503.1
70°	307.4	341.3	405.3	446.7	456.7
72.5°	259.7	294.8	358.8	399.0	414.0
75°	208.3	248.4	312.4	355.1	365.1
77.5°	158.1	204.5	269.8	302.4	302.4
80°	112.9	161.9	222.1	237.1	239.6
82.5°	74.0	121.7	164.4	163.1	163.1
85°	42.7	79.0	97.9	95.4	95.4
87.5°	16.3	32.6	35.1	35.1	33.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)