

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: P311395

Luminaire Tested: **24FCZ2-40-UNV-L82765-S-CA08-W2A-U-5000K**

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: P311395
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-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 5000K 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: 4004.0 lumens
Efficiency: N/A
Efficacy: 119.5 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

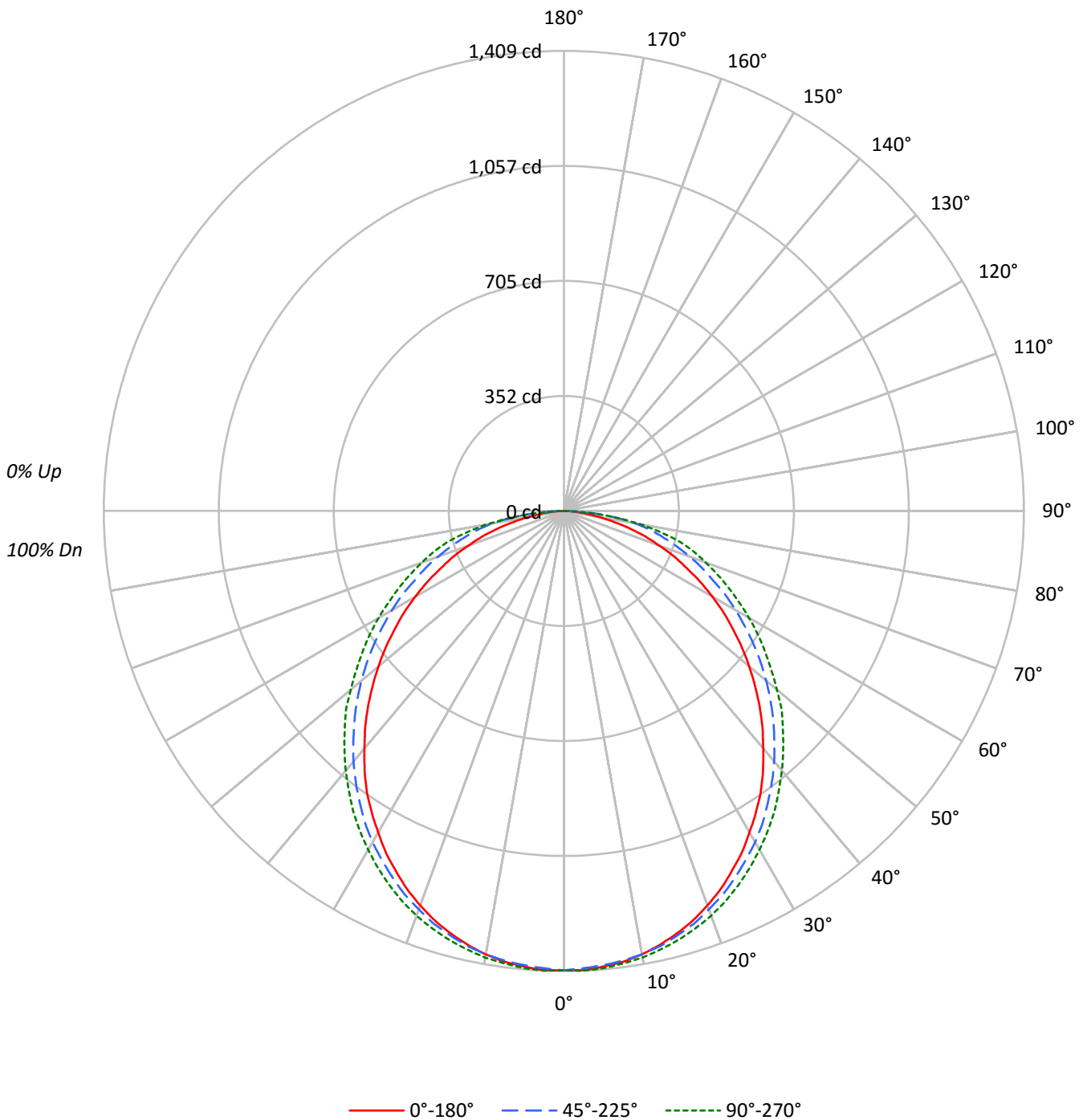
Input Watts (W): 33.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1893	1893	1893
5°	1891	1886	1898
10°	1884	1884	1897
15°	1865	1874	1894
20°	1841	1859	1888
25°	1807	1841	1877
30°	1766	1820	1861
35°	1728	1790	1847
40°	1669	1760	1825
45°	1614	1725	1805
50°	1552	1693	1784
55°	1483	1662	1766
60°	1414	1636	1763
65°	1324	1607	1774
70°	1226	1616	1821
75°	1097	1646	1924
80°	887	1744	1882
85°	667	1531	1493



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.2	3.3
10°-20°	380.5	9.5
20°-30°	572.0	14.3
30°-40°	681.3	17.0
40°-50°	697.3	17.4
50°-60°	627.8	15.7
60°-70°	493.0	12.3
70°-80°	320.0	8.0
80°-90°	99.0	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°	1085.7	27.1
0°-40°	1767.0	44.1
0°-60°	3092.1	77.2
0°-90°	4004.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4004.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1407	1407	1407	1407	1407	
5°	1400	1403	1396	1404	1405	133
15°	1339	1343	1346	1357	1360	378
25°	1217	1227	1240	1260	1264	561
35°	1052	1064	1090	1117	1124	656
45°	848	869	907	941	949	654
55°	632	660	708	745	753	567
65°	416	448	505	547	557	414
75°	211	252	317	360	370	223
85°	43	80	99	97	97	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1406.6	1406.6	1406.6	1406.6	1406.6
2.5°	1407.9	1407.9	1401.5	1407.9	1409.2
5°	1400.3	1402.8	1396.5	1404.1	1405.4
7.5°	1392.6	1392.6	1388.8	1396.5	1397.7
10°	1378.7	1379.9	1378.7	1387.6	1388.8
12.5°	1360.8	1363.4	1364.7	1373.6	1374.8
15°	1339.2	1343.0	1345.6	1357.0	1359.6
17.5°	1315.1	1318.9	1325.2	1338.0	1340.5
20°	1285.8	1290.9	1298.5	1315.1	1318.9
22.5°	1254.0	1259.1	1271.8	1287.1	1293.4
25°	1217.1	1227.3	1240.0	1260.4	1264.2
27.5°	1180.2	1189.2	1205.7	1227.3	1232.4
30°	1137.0	1151.0	1171.3	1193.0	1198.1
32.5°	1095.0	1109.0	1133.2	1156.1	1162.4
35°	1051.8	1064.5	1089.9	1116.7	1124.3
37.5°	1002.2	1018.7	1046.7	1073.4	1081.0
40°	950.0	970.4	1002.2	1030.2	1039.1
42.5°	900.4	922.1	953.9	984.4	994.6
45°	848.3	868.7	906.8	941.1	948.8
47.5°	794.9	817.8	858.5	892.8	905.5
50°	741.5	765.6	808.9	844.5	852.1
52.5°	688.1	713.5	759.3	797.4	801.2
55°	632.1	660.1	708.4	745.3	752.9
57.5°	581.2	605.4	657.5	695.7	704.6
60°	525.3	552.0	607.9	643.5	655.0
62.5°	471.8	499.8	558.3	593.9	604.1
65°	415.9	447.7	504.9	546.9	557.1
67.5°	367.6	398.1	459.1	499.8	510.0
70°	311.6	345.9	410.8	452.8	462.9
72.5°	263.3	298.9	363.7	404.4	419.7
75°	211.1	251.8	316.7	359.9	370.1
77.5°	160.2	207.3	273.4	306.5	306.5
80°	114.5	164.1	225.1	240.4	242.9
82.5°	75.0	123.4	166.6	165.3	165.3
85°	43.2	80.1	99.2	96.7	96.7
87.5°	16.5	33.1	35.6	35.6	34.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)