

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: P313990

Luminaire Tested: **24FCZ2-50HE-UNV-L83050-CA08-W2A-U-3000K**

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: P313990
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: 24FCZ2-50HE-UNV-L83050-CA08-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 3000K 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: 4342.0 lumens
Efficiency: N/A
Efficacy: 113.4 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

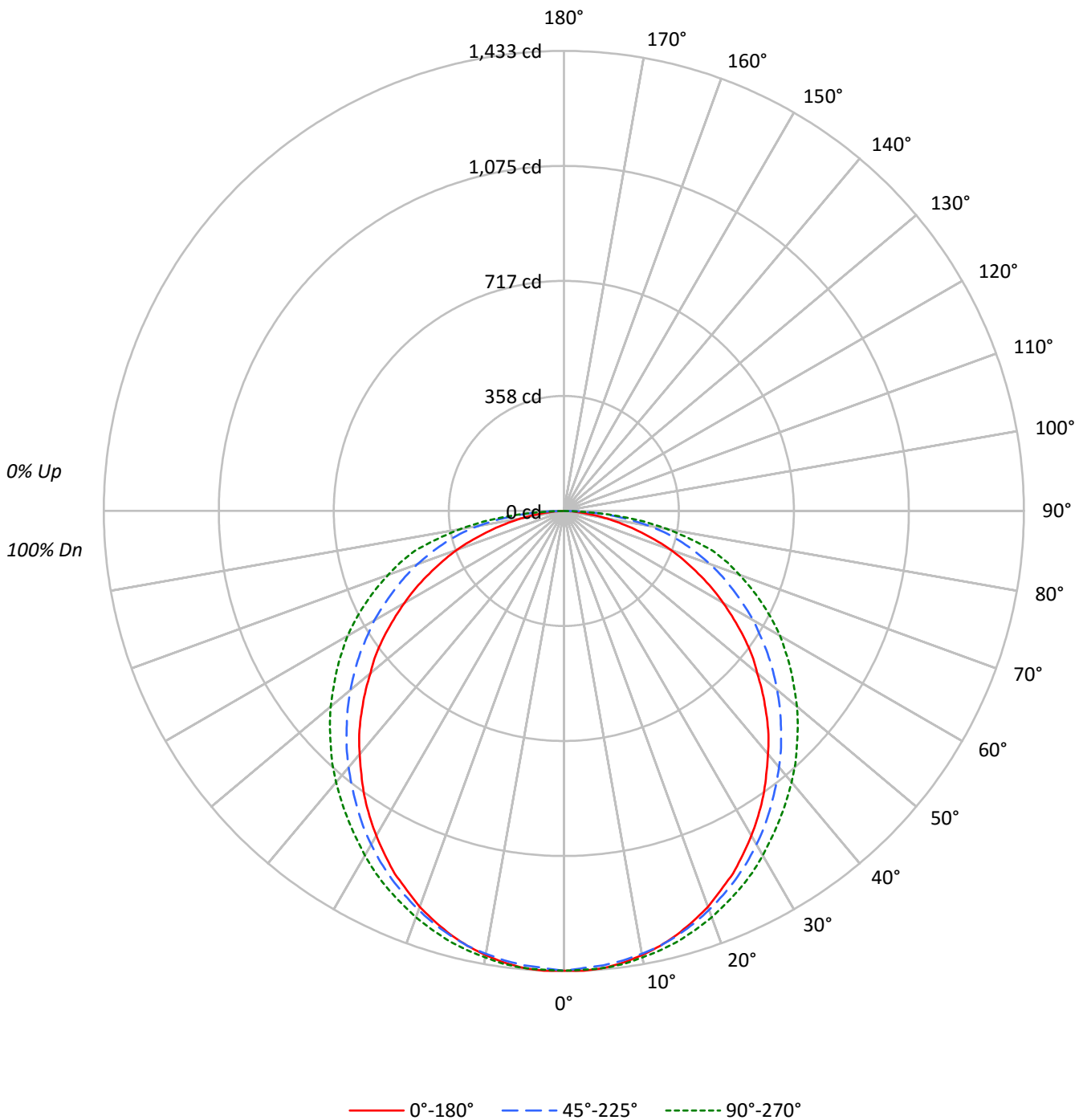
Input Watts (W): 38.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1927	1927	1927
5°	1930	1918	1930
10°	1919	1913	1929
15°	1902	1906	1930
20°	1879	1894	1929
25°	1850	1880	1927
30°	1815	1864	1925
35°	1779	1846	1926
40°	1738	1832	1938
45°	1697	1820	1954
50°	1647	1815	1984
55°	1605	1818	2024
60°	1543	1834	2093
65°	1472	1853	2169
70°	1394	1910	2290
75°	1243	1992	2502
80°	1061	2110	2556
85°	756	2090	2447



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.5	3.1
10°-20°	387.5	8.9
20°-30°	585.3	13.5
30°-40°	705.4	16.2
40°-50°	740.5	17.1
50°-60°	692.8	16.0
60°-70°	572.1	13.2
70°-80°	389.9	9.0
80°-90°	133.0	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°	1108.3	25.5
0°-40°	1813.7	41.8
0°-60°	3247.0	74.8
0°-90°	4342.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4342.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1432	1432	1432	1432	1432	
5°	1429	1428	1420	1429	1429	136
15°	1366	1367	1369	1383	1386	385
25°	1246	1252	1266	1291	1298	573
35°	1083	1095	1124	1161	1173	677
45°	892	910	957	1008	1027	688
55°	684	712	775	838	863	611
65°	462	501	582	656	681	459
75°	239	294	383	455	481	255
85°	49	96	135	153	158	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1432.0	1432.0	1432.0	1432.0	1432.0
2.5°	1433.4	1432.0	1424.8	1432.0	1430.5
5°	1429.1	1427.6	1420.4	1429.1	1429.1
7.5°	1419.0	1419.0	1411.8	1421.9	1423.3
10°	1404.6	1404.6	1400.3	1411.8	1411.8
12.5°	1387.3	1387.3	1387.3	1398.8	1400.3
15°	1365.7	1367.1	1368.6	1383.0	1385.9
17.5°	1339.8	1342.6	1347.0	1364.2	1367.1
20°	1312.4	1315.3	1322.5	1342.6	1347.0
22.5°	1277.8	1285.0	1295.1	1318.1	1322.5
25°	1246.1	1251.9	1266.3	1290.8	1298.0
27.5°	1207.2	1215.9	1234.6	1260.5	1270.6
30°	1168.3	1177.0	1200.0	1230.3	1238.9
32.5°	1126.5	1139.5	1164.0	1195.7	1205.8
35°	1083.3	1094.9	1123.7	1161.1	1172.6
37.5°	1035.8	1051.6	1083.3	1123.7	1138.1
40°	989.7	1007.0	1043.0	1086.2	1103.5
42.5°	943.6	960.9	1001.2	1050.2	1067.5
45°	891.7	910.5	956.6	1008.4	1027.1
47.5°	839.9	862.9	913.3	968.1	988.2
50°	786.6	812.5	867.2	924.9	947.9
52.5°	739.0	763.5	821.1	883.1	904.7
55°	684.3	711.7	775.0	838.4	862.9
57.5°	628.1	658.4	726.1	795.2	819.7
60°	573.4	606.5	681.4	750.6	777.9
62.5°	520.1	553.2	631.0	703.0	730.4
65°	462.4	501.3	582.0	655.5	681.4
67.5°	407.7	449.5	534.5	606.5	632.4
70°	354.4	394.7	485.5	556.1	582.0
72.5°	296.8	342.9	433.6	507.1	534.5
75°	239.1	293.9	383.2	455.2	481.2
77.5°	185.8	242.0	331.3	390.4	403.4
80°	136.9	194.5	272.3	314.1	329.9
82.5°	87.9	145.5	207.4	237.7	250.7
85°	49.0	96.5	135.4	152.7	158.5
87.5°	20.2	41.8	54.7	61.9	61.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)