

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: P310855

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-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: P310855
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-L82765-CA08-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 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: 4731.0 lumens
Efficiency: N/A
Efficacy: 120.4 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

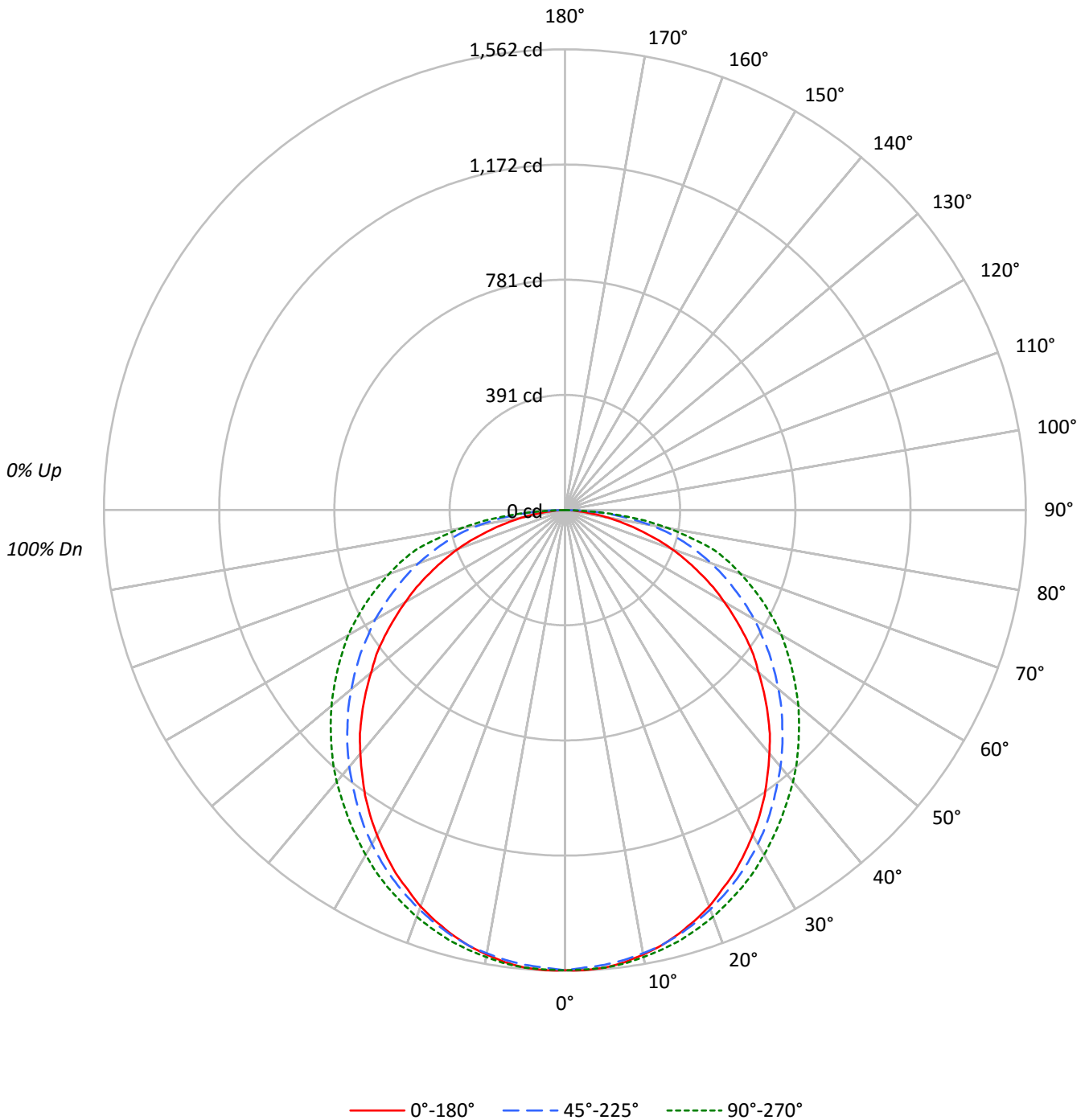
Input Watts (W): 39.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2099	2099	2099
5°	2103	2090	2103
10°	2091	2084	2102
15°	2073	2077	2103
20°	2048	2063	2101
25°	2016	2048	2100
30°	1978	2031	2097
35°	1939	2011	2099
40°	1894	1996	2112
45°	1849	1983	2130
50°	1794	1978	2162
55°	1749	1981	2206
60°	1681	1998	2281
65°	1604	2019	2364
70°	1519	2081	2495
75°	1355	2170	2726
80°	1155	2299	2786
85°	824	2277	2666



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.7	3.1
10°-20°	422.2	8.9
20°-30°	637.7	13.5
30°-40°	768.6	16.2
40°-50°	806.9	17.1
50°-60°	754.9	16.0
60°-70°	623.4	13.2
70°-80°	424.8	9.0
80°-90°	144.9	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°	1207.6	25.5
0°-40°	1976.2	41.8
0°-60°	3537.9	74.8
0°-90°	4731.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4731.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1560	1560	1560	1560	1560	
5°	1557	1556	1548	1557	1557	148
15°	1488	1490	1491	1507	1510	419
25°	1358	1364	1380	1406	1414	625
35°	1180	1193	1224	1265	1278	738
45°	972	992	1042	1099	1119	749
55°	746	775	844	914	940	665
65°	504	546	634	714	742	500
75°	261	320	418	496	524	278
85°	53	105	148	166	173	67
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1560.2	1560.2	1560.2	1560.2	1560.2
2.5°	1561.8	1560.2	1552.4	1560.2	1558.7
5°	1557.1	1555.5	1547.7	1557.1	1557.1
7.5°	1546.1	1546.1	1538.3	1549.3	1550.8
10°	1530.4	1530.4	1525.7	1538.3	1538.3
12.5°	1511.6	1511.6	1511.6	1524.1	1525.7
15°	1488.0	1489.6	1491.2	1506.9	1510.0
17.5°	1459.8	1462.9	1467.6	1486.5	1489.6
20°	1430.0	1433.1	1440.9	1462.9	1467.6
22.5°	1392.3	1400.1	1411.1	1436.2	1440.9
25°	1357.8	1364.0	1379.7	1406.4	1414.3
27.5°	1315.4	1324.8	1345.2	1373.5	1384.4
30°	1273.0	1282.4	1307.5	1340.5	1349.9
32.5°	1227.5	1241.6	1268.3	1302.8	1313.8
35°	1180.4	1192.9	1224.3	1265.1	1277.7
37.5°	1128.6	1145.9	1180.4	1224.3	1240.0
40°	1078.4	1097.2	1136.4	1183.5	1202.4
42.5°	1028.1	1047.0	1090.9	1144.3	1163.1
45°	971.6	992.0	1042.3	1098.8	1119.2
47.5°	915.1	940.2	995.2	1054.8	1076.8
50°	857.0	885.3	944.9	1007.7	1032.8
52.5°	805.2	831.9	894.7	962.2	985.7
55°	745.6	775.4	844.5	913.5	940.2
57.5°	684.4	717.3	791.1	866.5	893.1
60°	624.7	660.8	742.4	817.8	847.6
62.5°	566.6	602.7	687.5	766.0	795.8
65°	503.9	546.2	634.1	714.2	742.4
67.5°	444.2	489.7	582.3	660.8	689.1
70°	386.1	430.1	529.0	605.9	634.1
72.5°	323.4	373.6	472.5	552.5	582.3
75°	260.6	320.2	417.5	496.0	524.3
77.5°	202.5	263.7	361.0	425.4	439.5
80°	149.1	211.9	296.7	342.2	359.5
82.5°	95.7	158.5	226.0	259.0	273.1
85°	53.4	105.2	147.5	166.4	172.7
87.5°	22.0	45.5	59.6	67.5	67.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)