

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: P310854

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-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: P310854
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-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 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: 4668.0 lumens
Efficiency: N/A
Efficacy: 119.4 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

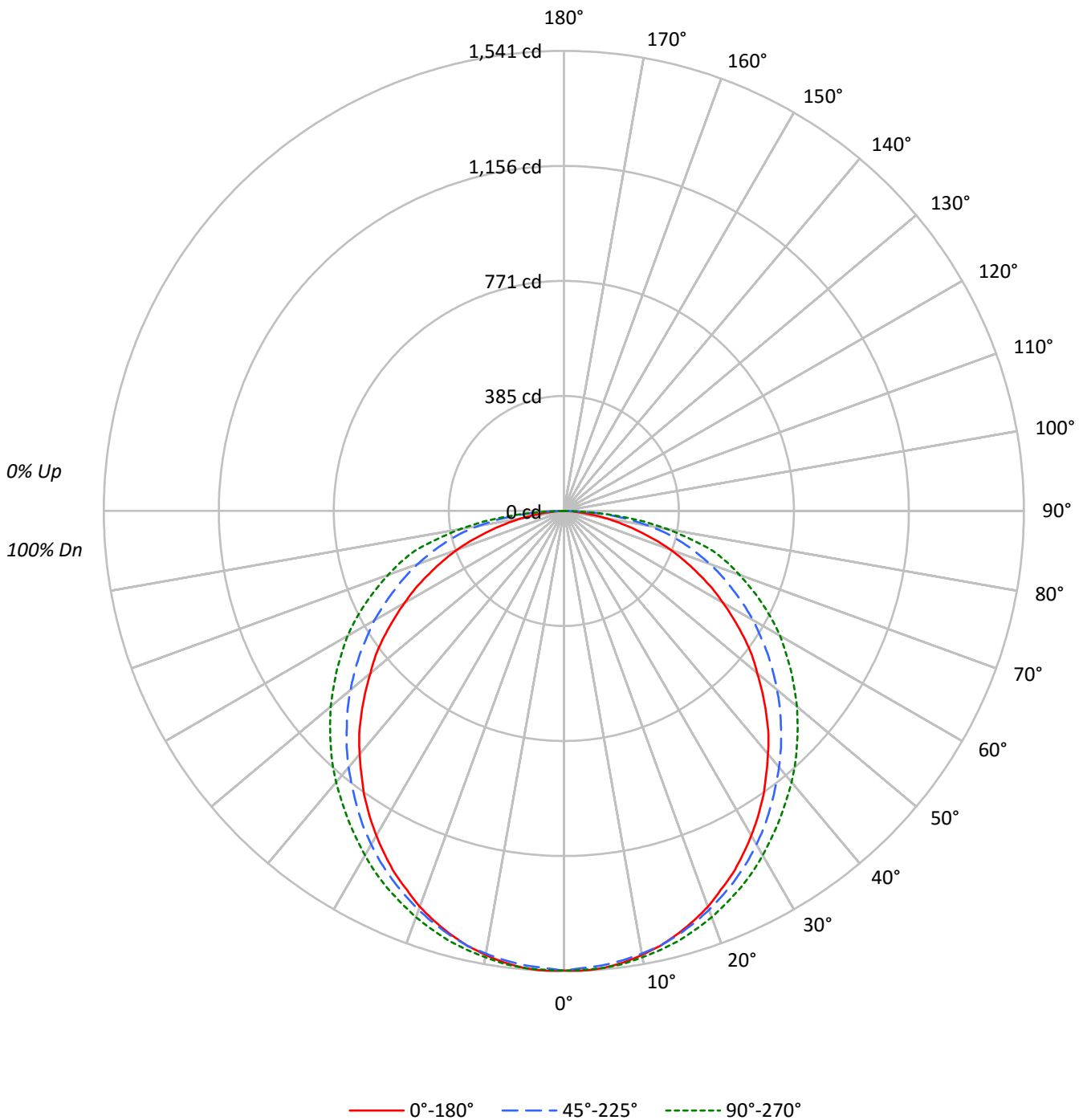
Input Watts (W): 39.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2071	2071	2071
5°	2075	2063	2075
10°	2063	2057	2074
15°	2045	2049	2075
20°	2020	2036	2073
25°	1989	2021	2072
30°	1951	2004	2069
35°	1913	1984	2071
40°	1869	1969	2084
45°	1824	1957	2101
50°	1770	1952	2133
55°	1726	1955	2176
60°	1659	1971	2250
65°	1583	1992	2332
70°	1499	2053	2461
75°	1337	2142	2689
80°	1140	2268	2748
85°	814	2248	2631



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	145.7	3.1
10°-20°	416.6	8.9
20°-30°	629.2	13.5
30°-40°	758.4	16.2
40°-50°	796.1	17.1
50°-60°	744.8	16.0
60°-70°	615.1	13.2
70°-80°	419.1	9.0
80°-90°	143.0	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°	1191.5	25.5
0°-40°	1949.9	41.8
0°-60°	3490.8	74.8
0°-90°	4668.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4668.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1540	1540	1540	1540	1540	
5°	1536	1535	1527	1536	1536	146
15°	1468	1470	1471	1487	1490	414
25°	1340	1346	1361	1388	1395	616
35°	1165	1177	1208	1248	1261	728
45°	959	979	1028	1084	1104	739
55°	736	765	833	901	928	657
65°	497	539	626	705	733	493
75°	257	316	412	489	517	274
85°	53	104	146	164	170	66
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1539.5	1539.5	1539.5	1539.5	1539.5
2.5°	1541.0	1539.5	1531.7	1539.5	1537.9
5°	1536.4	1534.8	1527.1	1536.4	1536.4
7.5°	1525.5	1525.5	1517.8	1528.6	1530.2
10°	1510.0	1510.0	1505.4	1517.8	1517.8
12.5°	1491.5	1491.5	1491.5	1503.8	1505.4
15°	1468.2	1469.8	1471.3	1486.8	1489.9
17.5°	1440.3	1443.4	1448.1	1466.7	1469.8
20°	1410.9	1414.0	1421.8	1443.4	1448.1
22.5°	1373.7	1381.5	1392.3	1417.1	1421.8
25°	1339.7	1345.9	1361.4	1387.7	1395.4
27.5°	1297.9	1307.2	1327.3	1355.2	1366.0
30°	1256.0	1265.3	1290.1	1322.6	1331.9
32.5°	1211.1	1225.1	1251.4	1285.5	1296.3
35°	1164.7	1177.1	1208.0	1248.3	1260.7
37.5°	1113.6	1130.6	1164.7	1208.0	1223.5
40°	1064.0	1082.6	1121.3	1167.8	1186.3
42.5°	1014.4	1033.0	1076.4	1129.0	1147.6
45°	958.7	978.8	1028.4	1084.1	1104.3
47.5°	902.9	927.7	981.9	1040.8	1062.4
50°	845.6	873.5	932.4	994.3	1019.1
52.5°	794.5	820.8	882.8	949.4	972.6
55°	735.7	765.1	833.2	901.4	927.7
57.5°	675.3	707.8	780.6	854.9	881.2
60°	616.4	652.0	732.6	806.9	836.3
62.5°	559.1	594.7	678.4	755.8	785.2
65°	497.2	539.0	625.7	704.7	732.6
67.5°	438.3	483.2	574.6	652.0	679.9
70°	381.0	424.4	521.9	597.8	625.7
72.5°	319.0	368.6	466.2	545.2	574.6
75°	257.1	315.9	412.0	489.4	517.3
77.5°	199.8	260.2	356.2	419.7	433.7
80°	147.1	209.1	292.7	337.6	354.7
82.5°	94.5	156.4	223.0	255.5	269.5
85°	52.7	103.8	145.6	164.2	170.4
87.5°	21.7	44.9	58.9	66.6	66.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)