

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: P310943

Luminaire Tested: **24FCZ2-55HE-UNV-L82765-CA08-W2A-U-4000K**

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: P310943
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: 24FCZ2-55HE-UNV-L82765-CA08-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 4000K 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: 5065.0 lumens
Efficiency: N/A
Efficacy: 116.2 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

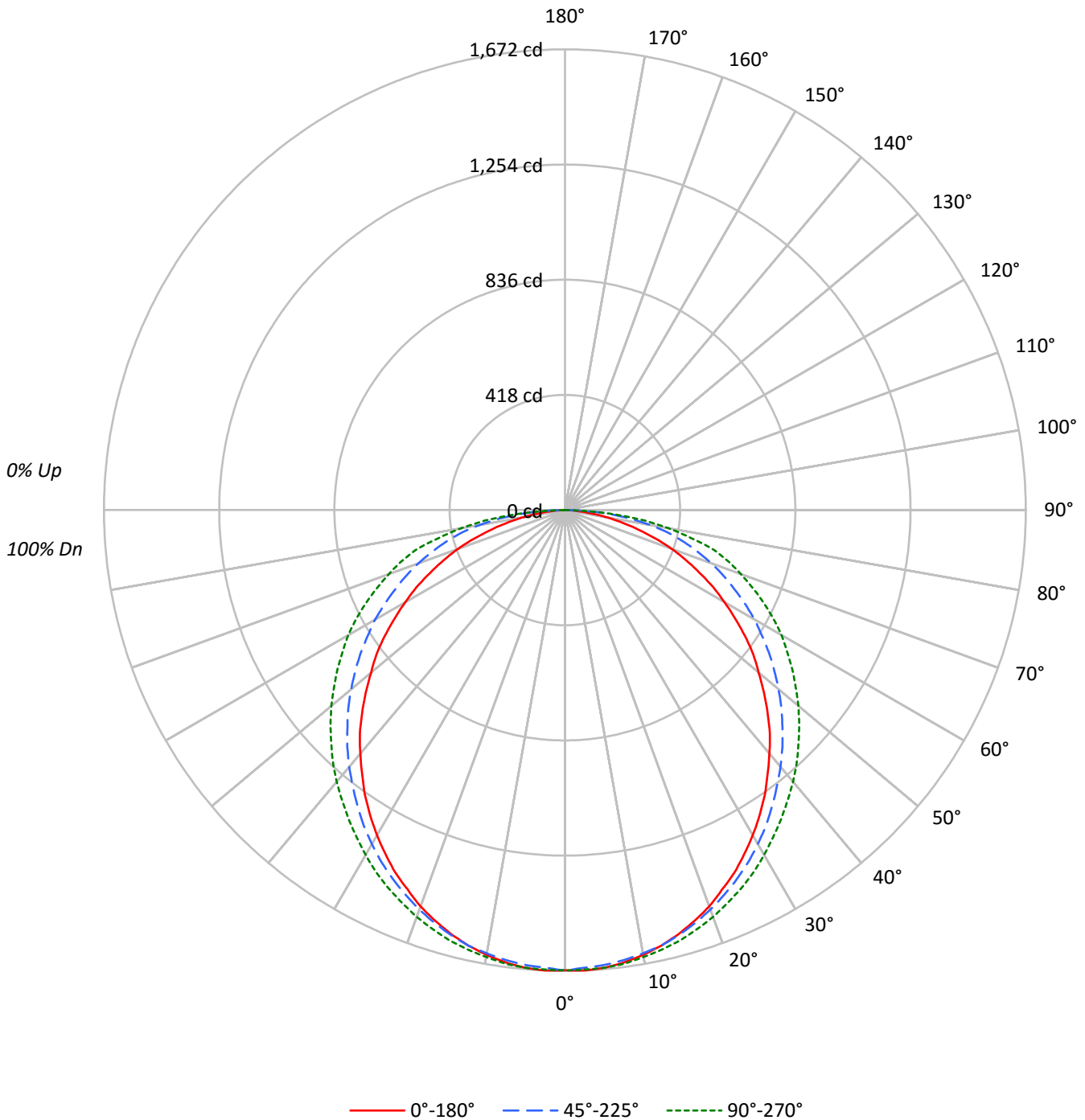
Input Watts (W): 43.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2248	2248	2248
5°	2251	2238	2251
10°	2239	2232	2250
15°	2219	2224	2252
20°	2192	2209	2250
25°	2158	2193	2248
30°	2117	2175	2245
35°	2076	2153	2247
40°	2028	2137	2261
45°	1979	2123	2280
50°	1921	2117	2315
55°	1872	2121	2361
60°	1800	2139	2442
65°	1717	2161	2531
70°	1626	2228	2671
75°	1450	2324	2918
80°	1237	2461	2982
85°	881	2439	2854



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	158.1	3.1
10°-20°	452.0	8.9
20°-30°	682.7	13.5
30°-40°	822.9	16.2
40°-50°	863.8	17.1
50°-60°	808.2	16.0
60°-70°	667.4	13.2
70°-80°	454.8	9.0
80°-90°	155.1	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°	1292.8	25.5
0°-40°	2115.7	41.8
0°-60°	3787.7	74.8
0°-90°	5065.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5065.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1670	1670	1670	1670	1670	
5°	1667	1665	1657	1667	1667	158
15°	1593	1595	1596	1613	1617	449
25°	1454	1460	1477	1506	1514	669
35°	1264	1277	1311	1354	1368	790
45°	1040	1062	1116	1176	1198	802
55°	798	830	904	978	1007	712
65°	539	585	679	765	795	535
75°	279	343	447	531	561	297
85°	57	113	158	178	185	71
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1670.4	1670.4	1670.4	1670.4	1670.4
2.5°	1672.1	1670.4	1662.0	1670.4	1668.7
5°	1667.0	1665.4	1656.9	1667.0	1667.0
7.5°	1655.3	1655.3	1646.9	1658.6	1660.3
10°	1638.5	1638.5	1633.4	1646.9	1646.9
12.5°	1618.3	1618.3	1618.3	1631.7	1633.4
15°	1593.1	1594.8	1596.5	1613.3	1616.6
17.5°	1562.8	1566.2	1571.2	1591.4	1594.8
20°	1530.9	1534.3	1542.7	1566.2	1571.2
22.5°	1490.6	1499.0	1510.7	1537.6	1542.7
25°	1453.6	1460.3	1477.1	1505.7	1514.1
27.5°	1408.2	1418.3	1440.2	1470.4	1482.2
30°	1362.9	1372.9	1399.8	1435.1	1445.2
32.5°	1314.1	1329.3	1357.8	1394.8	1406.6
35°	1263.7	1277.2	1310.8	1354.5	1367.9
37.5°	1208.3	1226.7	1263.7	1310.8	1327.6
40°	1154.5	1174.7	1216.7	1267.1	1287.2
42.5°	1100.7	1120.9	1167.9	1225.1	1245.2
45°	1040.2	1062.1	1115.8	1176.3	1198.2
47.5°	979.7	1006.6	1065.4	1129.3	1152.8
50°	917.5	947.8	1011.6	1078.9	1105.8
52.5°	862.1	890.7	957.9	1030.1	1055.3
55°	798.2	830.2	904.1	978.0	1006.6
57.5°	732.7	768.0	847.0	927.6	956.2
60°	668.8	707.5	794.9	875.5	907.5
62.5°	606.7	645.3	736.0	820.1	852.0
65°	539.4	584.8	678.9	764.6	794.9
67.5°	475.6	524.3	623.5	707.5	737.7
70°	413.4	460.5	566.3	648.7	678.9
72.5°	346.2	400.0	505.8	591.5	623.5
75°	279.0	342.8	447.0	531.0	561.3
77.5°	216.8	282.3	386.5	455.4	470.5
80°	159.6	226.9	317.6	366.3	384.8
82.5°	102.5	169.7	242.0	277.3	292.4
85°	57.1	112.6	158.0	178.1	184.9
87.5°	23.5	48.7	63.9	72.3	72.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)