

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: P310850

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-CA08-W2A-U-2700K**

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: P310850
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-2700K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 2700K 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: 4217.0 lumens
Efficiency: N/A
Efficacy: 109.8 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

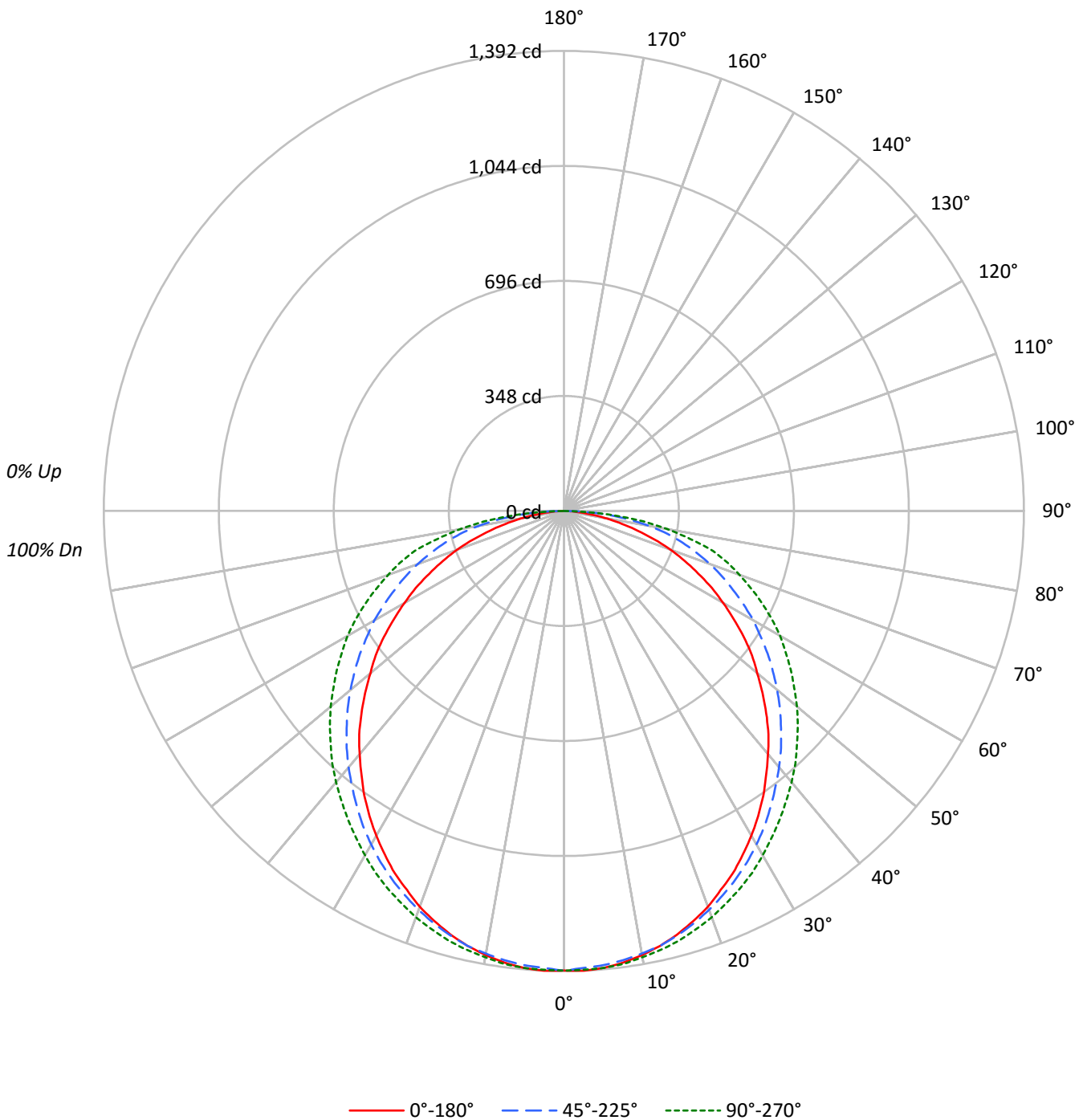
Input Watts (W): 38.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1871	1871	1871
5°	1875	1863	1875
10°	1864	1858	1873
15°	1848	1852	1875
20°	1825	1839	1873
25°	1797	1826	1871
30°	1763	1811	1869
35°	1728	1793	1871
40°	1688	1779	1882
45°	1648	1768	1898
50°	1599	1763	1927
55°	1559	1766	1966
60°	1499	1781	2033
65°	1430	1799	2107
70°	1354	1855	2223
75°	1208	1935	2429
80°	1030	2049	2483
85°	735	2030	2376



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.6	3.1
10°-20°	376.3	8.9
20°-30°	568.4	13.5
30°-40°	685.1	16.2
40°-50°	719.2	17.1
50°-60°	672.9	16.0
60°-70°	555.7	13.2
70°-80°	378.7	9.0
80°-90°	129.1	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°	1076.4	25.5
0°-40°	1761.5	41.8
0°-60°	3153.6	74.8
0°-90°	4217.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4217.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1391	1391	1391	1391	1391	
5°	1388	1386	1380	1388	1388	132
15°	1326	1328	1329	1343	1346	374
25°	1210	1216	1230	1254	1261	557
35°	1052	1063	1091	1128	1139	657
45°	866	884	929	979	998	668
55°	665	691	753	814	838	593
65°	449	487	565	637	662	446
75°	232	285	372	442	467	248
85°	48	94	132	148	154	60
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1390.7	1390.7	1390.7	1390.7	1390.7
2.5°	1392.1	1390.7	1383.7	1390.7	1389.3
5°	1387.9	1386.5	1379.5	1387.9	1387.9
7.5°	1378.1	1378.1	1371.1	1380.9	1382.3
10°	1364.1	1364.1	1359.9	1371.1	1371.1
12.5°	1347.4	1347.4	1347.4	1358.6	1359.9
15°	1326.4	1327.8	1329.2	1343.2	1346.0
17.5°	1301.2	1304.0	1308.2	1325.0	1327.8
20°	1274.6	1277.4	1284.4	1304.0	1308.2
22.5°	1241.0	1248.0	1257.8	1280.2	1284.4
25°	1210.2	1215.8	1229.8	1253.6	1260.6
27.5°	1172.5	1180.9	1199.0	1224.2	1234.0
30°	1134.7	1143.1	1165.5	1194.9	1203.2
32.5°	1094.1	1106.7	1130.5	1161.3	1171.1
35°	1052.1	1063.3	1091.3	1127.7	1138.9
37.5°	1006.0	1021.4	1052.1	1091.3	1105.3
40°	961.2	978.0	1013.0	1054.9	1071.7
42.5°	916.4	933.2	972.4	1020.0	1036.8
45°	866.1	884.2	929.0	979.4	997.6
47.5°	815.7	838.1	887.0	940.2	959.8
50°	763.9	789.1	842.3	898.2	920.6
52.5°	717.8	741.5	797.5	857.7	878.7
55°	664.6	691.2	752.7	814.3	838.1
57.5°	610.0	639.4	705.2	772.3	796.1
60°	556.9	589.0	661.8	728.9	755.5
62.5°	505.1	537.3	612.8	682.8	709.4
65°	449.1	486.9	565.2	636.6	661.8
67.5°	396.0	436.5	519.1	589.0	614.2
70°	344.2	383.4	471.5	540.1	565.2
72.5°	288.2	333.0	421.1	492.5	519.1
75°	232.3	285.4	372.2	442.1	467.3
77.5°	180.5	235.1	321.8	379.2	391.8
80°	132.9	188.9	264.4	305.0	320.4
82.5°	85.3	141.3	201.5	230.9	243.4
85°	47.6	93.7	131.5	148.3	153.9
87.5°	19.6	40.6	53.2	60.2	60.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)