

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: P310999

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-CA125-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: P310999
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: 24FCZ2-60HE-UNV-L82765-CA125-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" 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: 5658.0 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

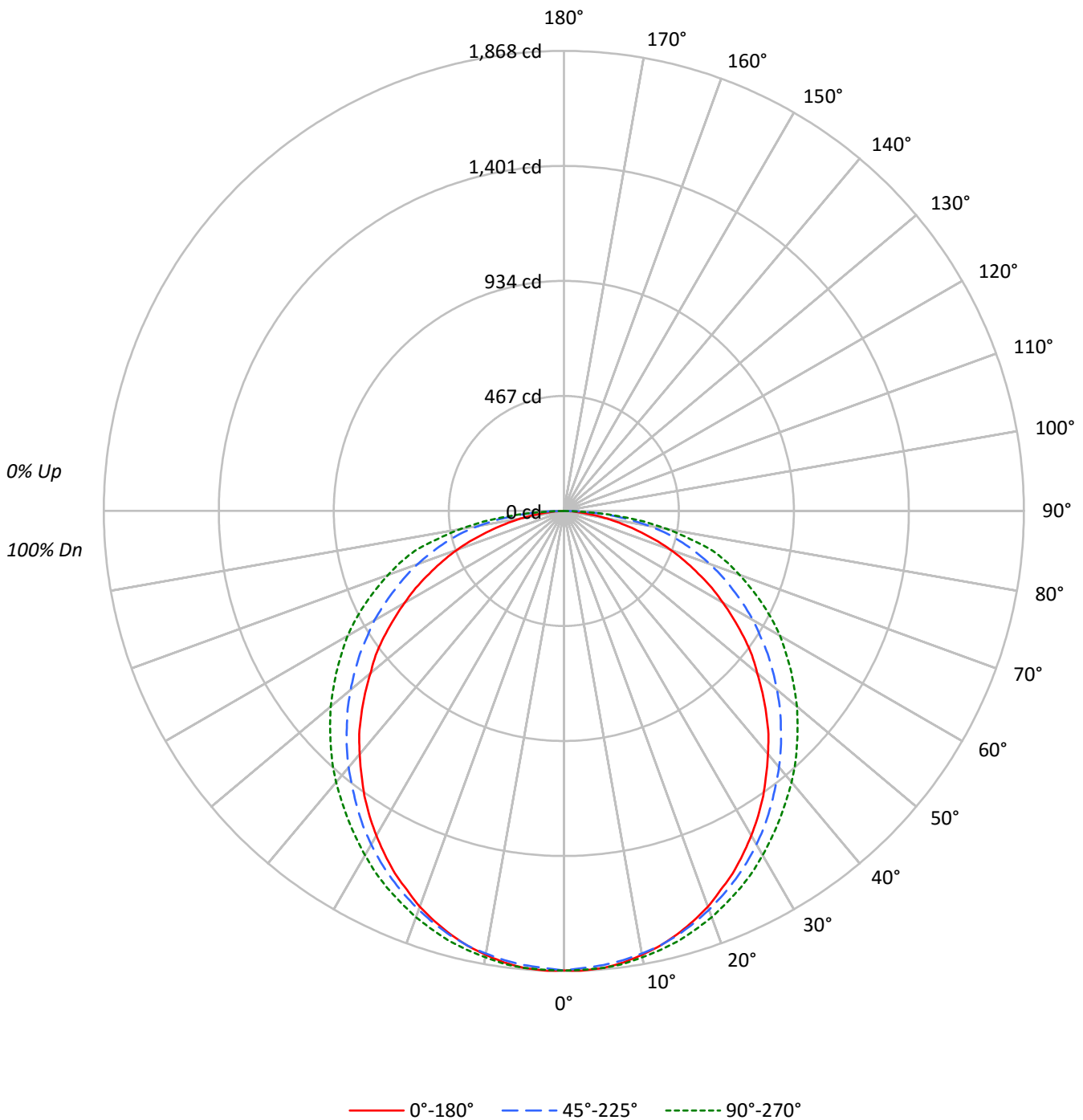
Input Watts (W): 48.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2511	2511	2511
5°	2515	2500	2515
10°	2501	2493	2513
15°	2479	2484	2516
20°	2449	2467	2513
25°	2411	2450	2511
30°	2365	2429	2508
35°	2319	2405	2510
40°	2265	2387	2526
45°	2211	2372	2547
50°	2146	2366	2586
55°	2092	2369	2638
60°	2010	2389	2728
65°	1918	2415	2827
70°	1817	2489	2984
75°	1620	2596	3260
80°	1382	2749	3331
85°	985	2725	3188



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	176.6	3.1
10°-20°	504.9	8.9
20°-30°	762.7	13.5
30°-40°	919.2	16.2
40°-50°	965.0	17.1
50°-60°	902.8	16.0
60°-70°	745.5	13.2
70°-80°	508.0	9.0
80°-90°	173.3	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°	1444.2	25.5
0°-40°	2363.4	41.8
0°-60°	4231.2	74.8
0°-90°	5658.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5658.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1866	1866	1866	1866	1866	
5°	1862	1860	1851	1862	1862	177
15°	1780	1782	1783	1802	1806	502
25°	1624	1631	1650	1682	1691	747
35°	1412	1427	1464	1513	1528	882
45°	1162	1186	1246	1314	1338	896
55°	892	927	1010	1092	1124	796
65°	603	653	758	854	888	598
75°	312	383	499	593	627	332
85°	64	126	176	199	206	80
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1866.0	1866.0	1866.0	1866.0	1866.0
2.5°	1867.8	1866.0	1856.6	1866.0	1864.1
5°	1862.2	1860.3	1850.9	1862.2	1862.2
7.5°	1849.1	1849.1	1839.7	1852.8	1854.7
10°	1830.3	1830.3	1824.7	1839.7	1839.7
12.5°	1807.8	1807.8	1807.8	1822.8	1824.7
15°	1779.6	1781.5	1783.4	1802.1	1805.9
17.5°	1745.8	1749.6	1755.2	1777.7	1781.5
20°	1710.1	1713.9	1723.3	1749.6	1755.2
22.5°	1665.1	1674.5	1687.6	1717.7	1723.3
25°	1623.8	1631.3	1650.1	1682.0	1691.4
27.5°	1573.1	1584.4	1608.8	1642.6	1655.7
30°	1522.4	1533.7	1563.7	1603.1	1614.4
32.5°	1468.0	1484.9	1516.8	1558.1	1571.2
35°	1411.7	1426.7	1464.2	1513.0	1528.1
37.5°	1349.7	1370.4	1411.7	1464.2	1483.0
40°	1289.7	1312.2	1359.1	1415.4	1438.0
42.5°	1229.6	1252.1	1304.7	1368.5	1391.0
45°	1162.0	1186.4	1246.5	1314.1	1338.5
47.5°	1094.4	1124.5	1190.2	1261.5	1287.8
50°	1025.0	1058.8	1130.1	1205.2	1235.2
52.5°	963.0	994.9	1070.0	1150.7	1178.9
55°	891.7	927.3	1009.9	1092.5	1124.5
57.5°	818.5	857.9	946.1	1036.2	1068.1
60°	747.1	790.3	887.9	978.0	1013.7
62.5°	677.7	720.9	822.2	916.1	951.8
65°	602.6	653.3	758.4	854.1	887.9
67.5°	531.3	585.7	696.4	790.3	824.1
70°	461.8	514.4	632.6	724.6	758.4
72.5°	386.7	446.8	565.0	660.8	696.4
75°	311.6	383.0	499.3	593.2	627.0
77.5°	242.2	315.4	431.8	508.7	525.6
80°	178.3	253.4	354.8	409.2	429.9
82.5°	114.5	189.6	270.3	309.7	326.6
85°	63.8	125.8	176.5	199.0	206.5
87.5°	26.3	54.4	71.3	80.7	80.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)