

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: P310998

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-CA125-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: P310998
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-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" 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: 5583.0 lumens
Efficiency: N/A
Efficacy: 115.1 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

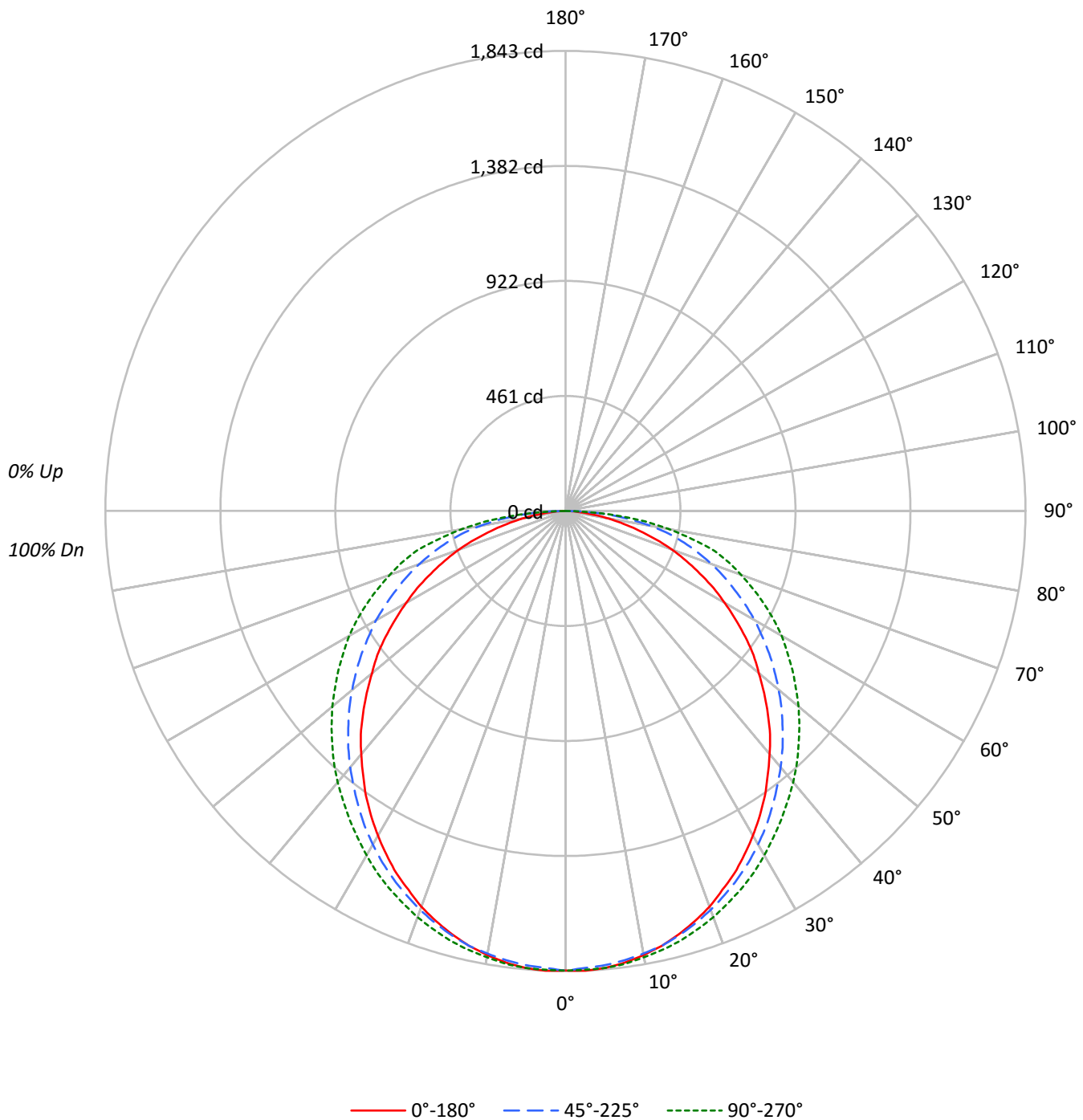
Input Watts (W): 48.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	100	96	92	96	92	89		92	89	87		82
2	98	89	81	75	95	87	80	74	83	78	73		80	75	71		67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		56
4	81	68	59	52	79	67	58	52	64	57	51		62	56	50		47
5	74	61	52	45	72	60	51	44	58	50	44		56	49	43		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	64	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	37	31	57	45	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2477	2477	2477
5°	2482	2467	2482
10°	2467	2460	2480
15°	2446	2451	2482
20°	2416	2435	2480
25°	2379	2417	2478
30°	2334	2397	2475
35°	2288	2373	2477
40°	2235	2356	2492
45°	2182	2340	2513
50°	2117	2334	2551
55°	2064	2338	2603
60°	1984	2358	2692
65°	1893	2382	2790
70°	1793	2456	2944
75°	1599	2561	3216
80°	1364	2713	3287
85°	973	2688	3146



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	174.3	3.1
10°-20°	498.2	8.9
20°-30°	752.6	13.5
30°-40°	907.0	16.2
40°-50°	952.2	17.1
50°-60°	890.8	16.0
60°-70°	735.7	13.2
70°-80°	501.3	9.0
80°-90°	171.0	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°	1425.1	25.5
0°-40°	2332.1	41.8
0°-60°	4175.1	74.8
0°-90°	5583.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5583.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1841	1841	1841	1841	1841	
5°	1838	1836	1826	1838	1838	174
15°	1756	1758	1760	1778	1782	495
25°	1602	1610	1628	1660	1669	737
35°	1393	1408	1445	1493	1508	870
45°	1147	1171	1230	1297	1321	884
55°	880	915	997	1078	1110	785
65°	595	645	748	843	876	590
75°	308	378	493	585	619	328
85°	63	124	174	196	204	79
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1841.2	1841.2	1841.2	1841.2	1841.2
2.5°	1843.1	1841.2	1832.0	1841.2	1839.4
5°	1837.5	1835.7	1826.4	1837.5	1837.5
7.5°	1824.6	1824.6	1815.3	1828.3	1830.1
10°	1806.0	1806.0	1800.5	1815.3	1815.3
12.5°	1783.8	1783.8	1783.8	1798.6	1800.5
15°	1756.0	1757.9	1759.7	1778.2	1782.0
17.5°	1722.7	1726.4	1731.9	1754.2	1757.9
20°	1687.5	1691.2	1700.4	1726.4	1731.9
22.5°	1643.0	1652.3	1665.3	1694.9	1700.4
25°	1602.3	1609.7	1628.2	1659.7	1669.0
27.5°	1552.3	1563.4	1587.5	1620.8	1633.8
30°	1502.2	1513.4	1543.0	1581.9	1593.0
32.5°	1448.5	1465.2	1496.7	1537.4	1550.4
35°	1393.0	1407.8	1444.8	1493.0	1507.8
37.5°	1331.8	1352.2	1393.0	1444.8	1463.3
40°	1272.6	1294.8	1341.1	1396.7	1418.9
42.5°	1213.3	1235.5	1287.4	1350.4	1372.6
45°	1146.6	1170.7	1230.0	1296.6	1320.7
47.5°	1079.9	1109.6	1174.4	1244.8	1270.7
50°	1011.4	1044.7	1115.1	1189.2	1218.8
52.5°	950.2	981.7	1055.8	1135.5	1163.3
55°	879.9	915.1	996.6	1078.1	1109.6
57.5°	807.6	846.5	933.6	1022.5	1054.0
60°	737.2	779.8	876.2	965.1	1000.3
62.5°	668.7	711.3	811.3	903.9	939.1
65°	594.6	644.6	748.3	842.8	876.2
67.5°	524.2	577.9	687.2	779.8	813.2
70°	455.7	507.5	624.2	715.0	748.3
72.5°	381.6	440.9	557.6	652.0	687.2
75°	307.5	377.9	492.7	585.3	618.7
77.5°	239.0	311.2	426.0	502.0	518.7
80°	176.0	250.1	350.1	403.8	424.2
82.5°	113.0	187.1	266.7	305.6	322.3
85°	63.0	124.1	174.1	196.3	203.8
87.5°	25.9	53.7	70.4	79.7	79.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)