

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: P311671

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-S-CA125-W2A-U-3500K**

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: P311671
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
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-S-CA125-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" ACRYLIC SHEET
Light Source: (336) 3500K 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: 5639.0 lumens
Efficiency: N/A
Efficacy: 118.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

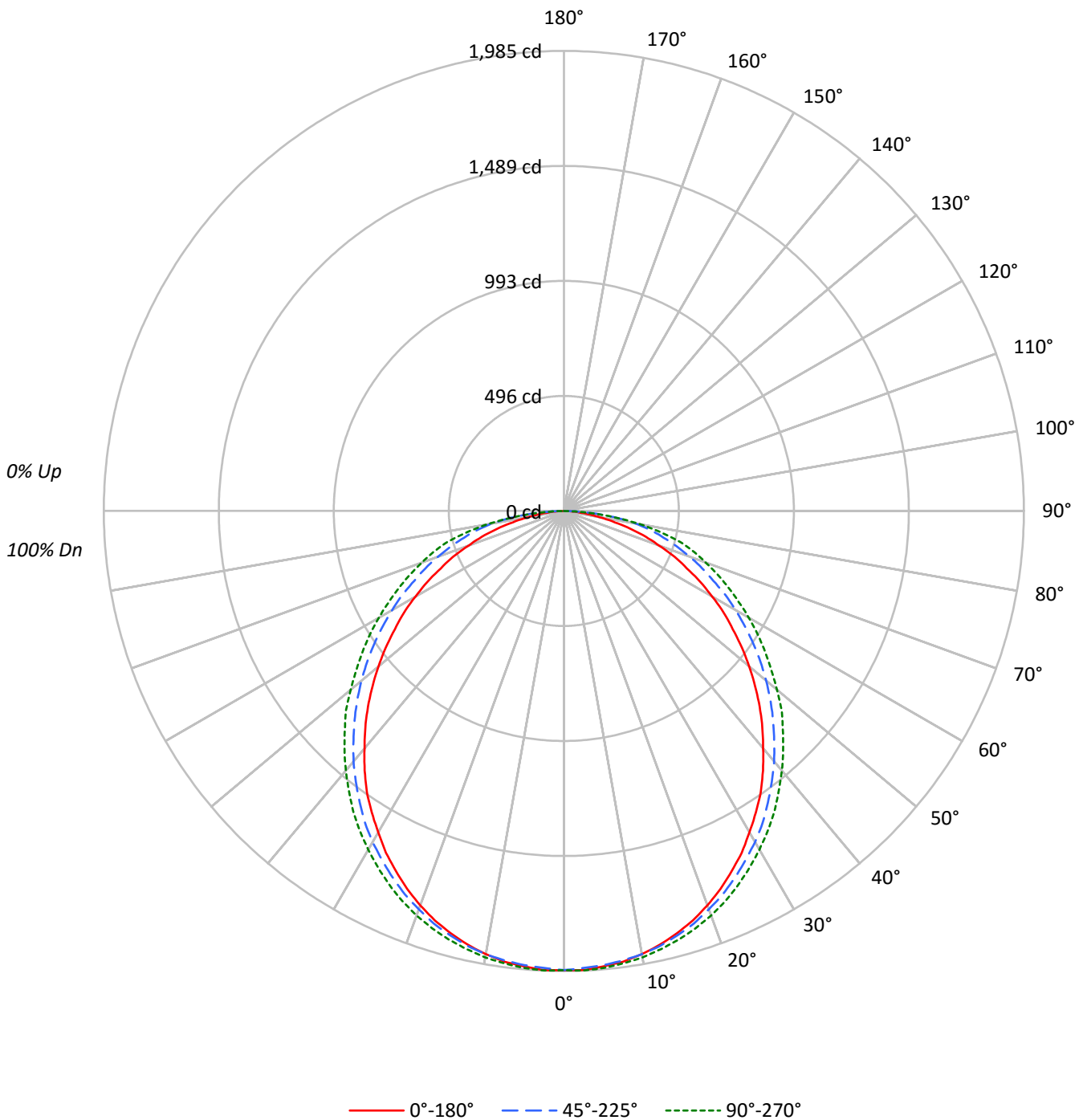
Input Watts (W): 47.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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CATALOG NUMBER: 24FC22-60HE-UNV-L82765-S-CA125-W2A-U-3500K

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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2665	2665	2665
5°	2664	2656	2673
10°	2653	2653	2672
15°	2627	2640	2667
20°	2593	2619	2659
25°	2545	2593	2643
30°	2488	2563	2621
35°	2433	2521	2601
40°	2350	2479	2570
45°	2273	2430	2543
50°	2186	2385	2512
55°	2088	2340	2487
60°	1991	2304	2482
65°	1865	2264	2498
70°	1726	2276	2565
75°	1546	2319	2709
80°	1249	2456	2651
85°	940	2157	2101



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	187.5	3.3
10°-20°	535.9	9.5
20°-30°	805.5	14.3
30°-40°	959.5	17.0
40°-50°	982.1	17.4
50°-60°	884.1	15.7
60°-70°	694.3	12.3
70°-80°	450.6	8.0
80°-90°	139.4	2.5
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°	1529.0	27.1
0°-40°	2488.5	44.1
0°-60°	4354.7	77.2
0°-90°	5639.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5639.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1981	1981	1981	1981	1981	
5°	1972	1976	1967	1977	1979	187
15°	1886	1892	1895	1911	1915	532
25°	1714	1728	1746	1775	1780	790
35°	1481	1499	1535	1573	1583	924
45°	1195	1223	1277	1326	1336	921
55°	890	930	998	1050	1060	798
65°	586	630	711	770	784	583
75°	297	355	446	507	521	315
85°	61	113	140	136	136	74
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1981.0	1981.0	1981.0	1981.0	1981.0
2.5°	1982.8	1982.8	1973.9	1982.8	1984.6
5°	1972.1	1975.6	1966.7	1977.4	1979.2
7.5°	1961.3	1961.3	1955.9	1966.7	1968.5
10°	1941.6	1943.4	1941.6	1954.2	1955.9
12.5°	1916.5	1920.1	1921.9	1934.4	1936.2
15°	1886.1	1891.5	1895.0	1911.2	1914.7
17.5°	1852.1	1857.4	1866.4	1884.3	1887.9
20°	1810.9	1818.0	1828.8	1852.1	1857.4
22.5°	1766.1	1773.2	1791.2	1812.6	1821.6
25°	1714.1	1728.5	1746.4	1775.0	1780.4
27.5°	1662.2	1674.7	1698.0	1728.5	1735.6
30°	1601.3	1621.0	1649.7	1680.1	1687.3
32.5°	1542.2	1561.9	1595.9	1628.2	1637.1
35°	1481.3	1499.2	1535.0	1572.6	1583.4
37.5°	1411.4	1434.7	1474.1	1511.7	1522.5
40°	1338.0	1366.7	1411.4	1450.8	1463.4
42.5°	1268.1	1298.6	1343.4	1386.4	1400.7
45°	1194.7	1223.4	1277.1	1325.5	1336.2
47.5°	1119.5	1151.7	1209.0	1257.4	1275.3
50°	1044.2	1078.3	1139.2	1189.3	1200.1
52.5°	969.0	1004.8	1069.3	1123.1	1128.4
55°	890.2	929.6	997.7	1049.6	1060.4
57.5°	818.6	852.6	926.0	979.8	992.3
60°	739.7	777.4	856.2	906.3	922.4
62.5°	664.5	703.9	786.3	836.5	850.8
65°	585.7	630.5	711.1	770.2	784.5
67.5°	517.6	560.6	646.6	703.9	718.3
70°	438.8	487.2	578.5	637.7	652.0
72.5°	370.8	420.9	512.3	569.6	591.1
75°	297.3	354.6	446.0	506.9	521.2
77.5°	225.7	292.0	385.1	431.7	431.7
80°	161.2	231.1	317.0	338.5	342.1
82.5°	105.7	173.7	234.6	232.9	232.9
85°	60.9	112.8	139.7	136.1	136.1
87.5°	23.3	46.6	50.2	50.2	48.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)