

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: P311685

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-S-CP125-W2A-U-5700K**

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: P311685
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-CP125-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" POLYCARB SHEET
Light Source: (336) 5700K 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: 5903.1 lumens
Efficiency: N/A
Efficacy: 120.7 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

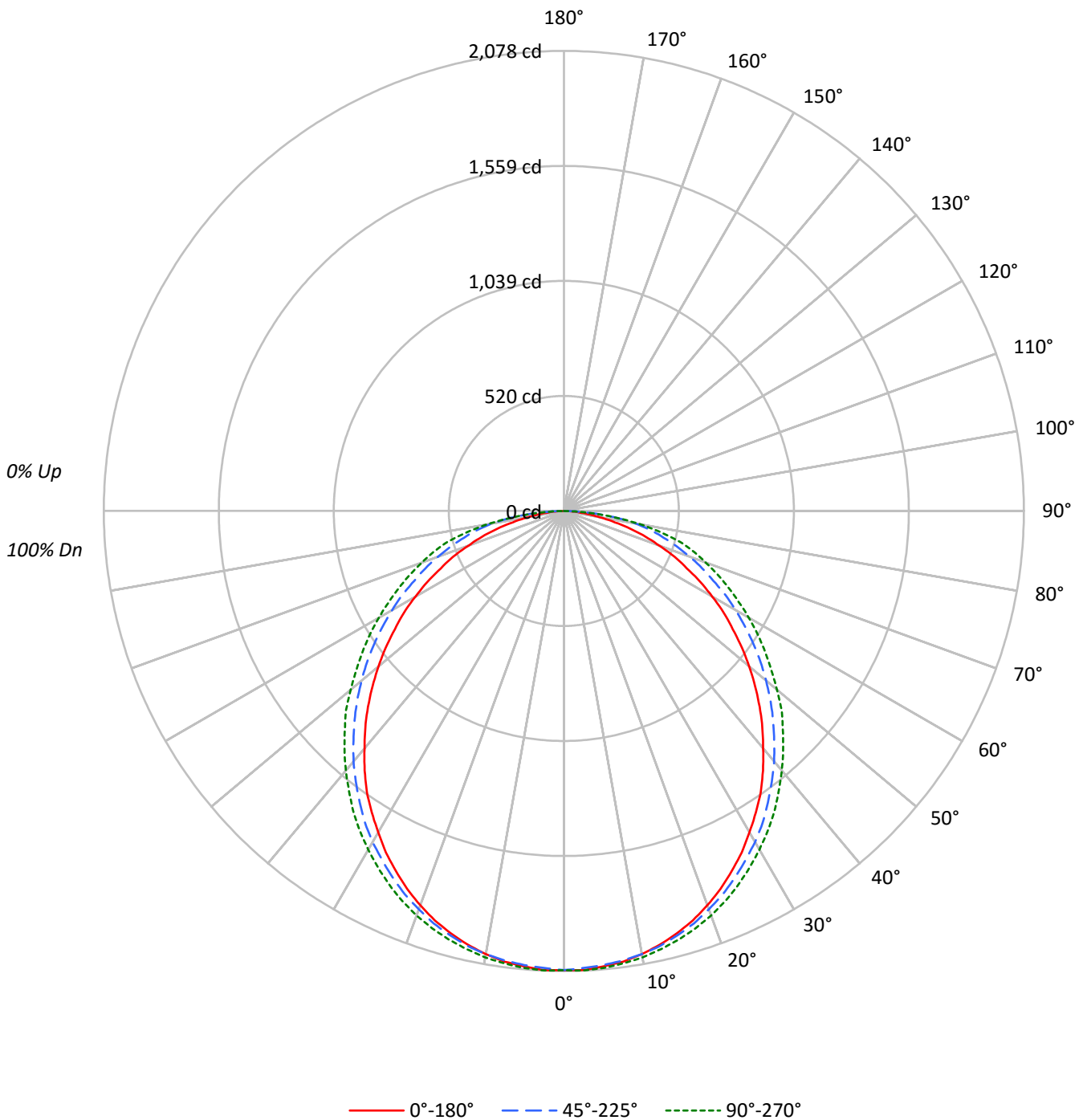
Input Watts (W): 48.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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CATALOG NUMBER: 24FC22-60HE-UNV-L82765-S-CP125-W2A-U-5700K

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°	2790	2790	2790
5°	2788	2781	2798
10°	2777	2777	2797
15°	2750	2763	2792
20°	2714	2741	2784
25°	2664	2714	2767
30°	2604	2683	2744
35°	2547	2639	2723
40°	2460	2595	2691
45°	2380	2544	2662
50°	2288	2496	2630
55°	2186	2450	2604
60°	2084	2412	2598
65°	1952	2370	2615
70°	1807	2382	2685
75°	1618	2427	2836
80°	1308	2572	2775
85°	985	2259	2200



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	196.3	3.3
10°-20°	561.0	9.5
20°-30°	843.3	14.3
30°-40°	1004.5	17.0
40°-50°	1028.0	17.4
50°-60°	925.5	15.7
60°-70°	726.8	12.3
70°-80°	471.7	8.0
80°-90°	145.9	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°	1600.6	27.1
0°-40°	2605.0	44.1
0°-60°	4558.6	77.2
0°-90°	5903.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5903.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2074	2074	2074	2074	2074	
5°	2064	2068	2059	2070	2072	196
15°	1974	1980	1984	2001	2004	557
25°	1794	1809	1828	1858	1864	827
35°	1551	1569	1607	1646	1658	967
45°	1251	1281	1337	1388	1399	964
55°	932	973	1044	1099	1110	835
65°	613	660	744	806	821	610
75°	311	371	467	531	546	329
85°	64	118	146	142	142	77
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2073.8	2073.8	2073.8	2073.8	2073.8
2.5°	2075.6	2075.6	2066.3	2075.6	2077.5
5°	2064.4	2068.1	2058.8	2070.0	2071.9
7.5°	2053.1	2053.1	2047.5	2058.8	2060.6
10°	2032.5	2034.4	2032.5	2045.6	2047.5
12.5°	2006.3	2010.0	2011.9	2025.0	2026.9
15°	1974.4	1980.0	1983.8	2000.6	2004.4
17.5°	1938.8	1944.4	1953.8	1972.5	1976.3
20°	1895.6	1903.1	1914.4	1938.8	1944.4
22.5°	1848.8	1856.3	1875.0	1897.5	1906.9
25°	1794.4	1809.4	1828.1	1858.1	1863.8
27.5°	1740.0	1753.1	1777.5	1809.4	1816.9
30°	1676.3	1696.9	1726.9	1758.8	1766.3
32.5°	1614.4	1635.0	1670.6	1704.4	1713.8
35°	1550.6	1569.4	1606.9	1646.3	1657.5
37.5°	1477.5	1501.9	1543.1	1582.5	1593.8
40°	1400.6	1430.6	1477.5	1518.8	1531.9
42.5°	1327.5	1359.4	1406.3	1451.3	1466.3
45°	1250.6	1280.6	1336.9	1387.5	1398.8
47.5°	1171.9	1205.6	1265.6	1316.3	1335.0
50°	1093.1	1128.8	1192.5	1245.0	1256.3
52.5°	1014.4	1051.9	1119.4	1175.6	1181.3
55°	931.9	973.1	1044.4	1098.8	1110.0
57.5°	856.9	892.5	969.4	1025.6	1038.8
60°	774.4	813.8	896.3	948.8	965.6
62.5°	695.6	736.9	823.1	875.6	890.6
65°	613.1	660.0	744.4	806.3	821.3
67.5°	541.9	586.9	676.9	736.9	751.9
70°	459.4	510.0	605.6	667.5	682.5
72.5°	388.1	440.6	536.3	596.3	618.8
75°	311.3	371.3	466.9	530.6	545.6
77.5°	236.3	305.6	403.1	451.9	451.9
80°	168.8	241.9	331.9	354.4	358.1
82.5°	110.6	181.9	245.6	243.8	243.8
85°	63.8	118.1	146.3	142.5	142.5
87.5°	24.4	48.8	52.5	52.5	50.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)