

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: P311686

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-S-CP125-W2A-U-6500K**

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: P311686
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-6500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" POLYCARB SHEET
Light Source: (336) 6500K 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: 5918.0 lumens
Efficiency: N/A
Efficacy: 119.1 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

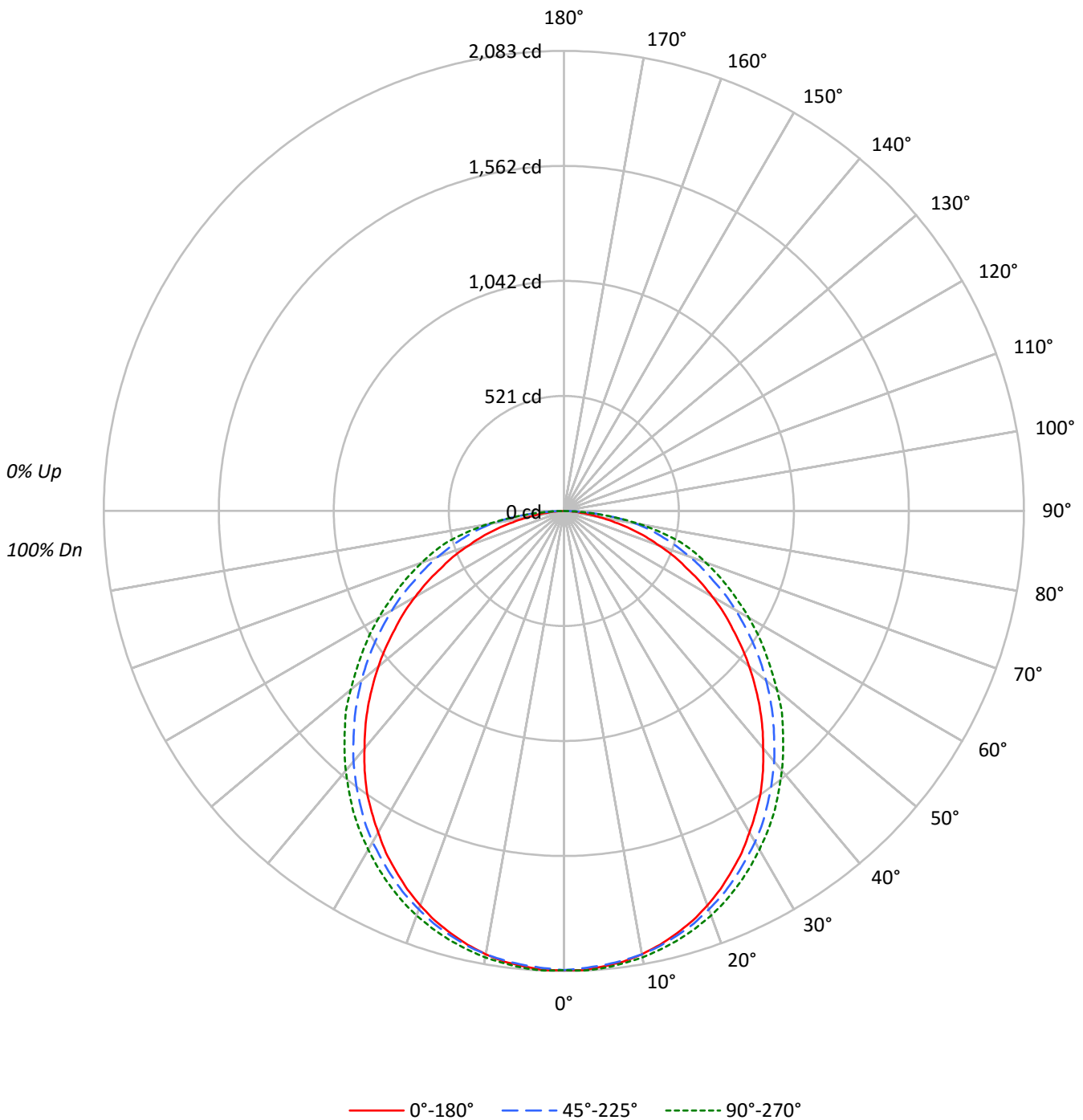
Input Watts (W): 49.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	2797	2797	2797
5°	2795	2788	2806
10°	2784	2784	2804
15°	2757	2770	2799
20°	2721	2748	2791
25°	2671	2721	2774
30°	2611	2690	2751
35°	2553	2646	2729
40°	2466	2602	2697
45°	2386	2550	2668
50°	2294	2502	2636
55°	2191	2456	2610
60°	2089	2418	2605
65°	1957	2376	2621
70°	1812	2389	2692
75°	1622	2433	2844
80°	1311	2578	2782
85°	986	2263	2206



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	196.8	3.3
10°-20°	562.4	9.5
20°-30°	845.4	14.3
30°-40°	1007.0	17.0
40°-50°	1030.6	17.4
50°-60°	927.9	15.7
60°-70°	728.7	12.3
70°-80°	472.9	8.0
80°-90°	146.3	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°	1604.6	27.1
0°-40°	2611.6	44.1
0°-60°	4570.1	77.2
0°-90°	5918.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5918.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2079	2079	2079	2079	2079	
5°	2070	2073	2064	2075	2077	197
15°	1979	1985	1989	2006	2010	558
25°	1799	1814	1833	1863	1868	829
35°	1555	1573	1611	1650	1662	970
45°	1254	1284	1340	1391	1402	967
55°	934	976	1047	1102	1113	838
65°	615	662	746	808	823	612
75°	312	372	468	532	547	330
85°	64	118	147	143	143	77
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2079.0	2079.0	2079.0	2079.0	2079.0
2.5°	2080.9	2080.9	2071.5	2080.9	2082.8
5°	2069.6	2073.4	2064.0	2075.3	2077.2
7.5°	2058.4	2058.4	2052.7	2064.0	2065.9
10°	2037.7	2039.6	2037.7	2050.8	2052.7
12.5°	2011.4	2015.1	2017.0	2030.2	2032.0
15°	1979.4	1985.0	1988.8	2005.7	2009.5
17.5°	1943.7	1949.3	1958.7	1977.5	1981.3
20°	1900.5	1908.0	1919.3	1943.7	1949.3
22.5°	1853.5	1861.0	1879.8	1902.3	1911.7
25°	1798.9	1814.0	1832.8	1862.9	1868.5
27.5°	1744.4	1757.6	1782.0	1814.0	1821.5
30°	1680.5	1701.2	1731.3	1763.2	1770.7
32.5°	1618.5	1639.2	1674.9	1708.7	1718.1
35°	1554.6	1573.4	1611.0	1650.4	1661.7
37.5°	1481.3	1505.7	1547.1	1586.5	1597.8
40°	1404.2	1434.3	1481.3	1522.6	1535.8
42.5°	1330.9	1362.8	1409.8	1454.9	1470.0
45°	1253.8	1283.9	1340.3	1391.0	1402.3
47.5°	1174.9	1208.7	1268.8	1319.6	1338.4
50°	1095.9	1131.6	1195.5	1248.2	1259.4
52.5°	1017.0	1054.6	1122.2	1178.6	1184.3
55°	934.2	975.6	1047.0	1101.5	1112.8
57.5°	859.1	894.8	971.8	1028.2	1041.4
60°	776.3	815.8	898.5	951.2	968.1
62.5°	697.4	738.8	825.2	877.9	892.9
65°	614.7	661.7	746.3	808.3	823.3
67.5°	543.3	588.4	678.6	738.8	753.8
70°	460.5	511.3	607.2	669.2	684.2
72.5°	389.1	441.7	537.6	597.8	620.3
75°	312.0	372.2	468.1	532.0	547.0
77.5°	236.9	306.4	404.2	453.0	453.0
80°	169.2	242.5	332.7	355.3	359.0
82.5°	110.9	182.3	246.3	244.4	244.4
85°	63.9	118.4	146.6	142.9	142.9
87.5°	24.4	48.9	52.6	52.6	50.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)