

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: P314447

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-S-CA125-W2A-U-4000K**

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: P314447
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-L83050-S-CA125-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" ACRYLIC SHEET
Light Source: (336) 4000K 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: 6063.0 lumens
Efficiency: N/A
Efficacy: 124.5 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

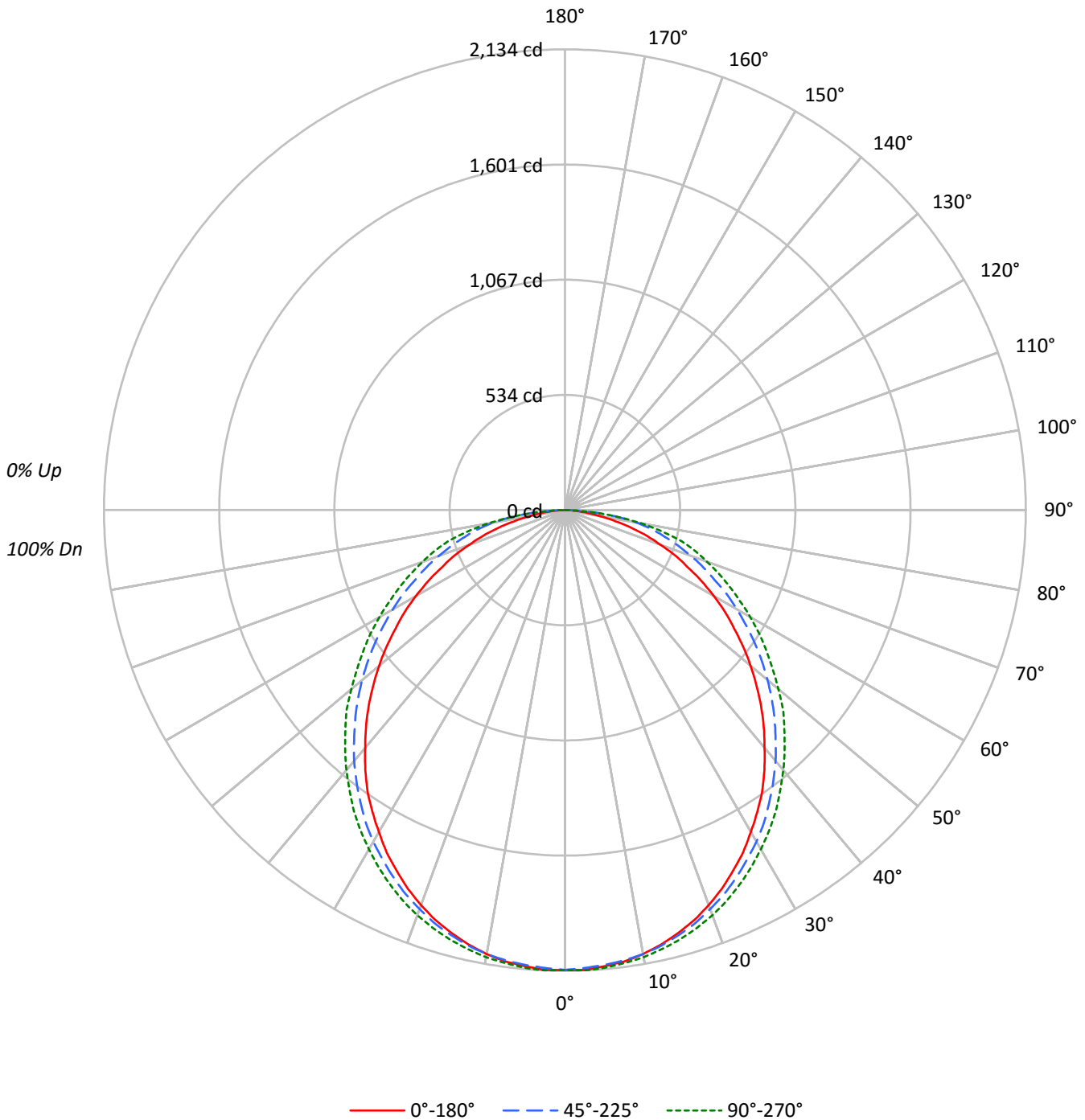
Input Watts (W): 48.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2866	2866	2866
5°	2864	2856	2874
10°	2852	2852	2873
15°	2825	2838	2868
20°	2788	2815	2860
25°	2736	2788	2842
30°	2675	2756	2818
35°	2616	2711	2796
40°	2527	2666	2764
45°	2444	2613	2734
50°	2350	2564	2701
55°	2245	2516	2674
60°	2140	2477	2669
65°	2005	2434	2685
70°	1856	2447	2758
75°	1662	2493	2913
80°	1343	2641	2850
85°	1011	2319	2260



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	201.6	3.3
10°-20°	576.2	9.5
20°-30°	866.1	14.3
30°-40°	1031.7	17.0
40°-50°	1055.9	17.4
50°-60°	950.6	15.7
60°-70°	746.5	12.3
70°-80°	484.5	8.0
80°-90°	149.9	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°	1643.9	27.1
0°-40°	2675.6	44.1
0°-60°	4682.1	77.2
0°-90°	6063.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6063.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2130	2130	2130	2130	2130	
5°	2120	2124	2115	2126	2128	201
15°	2028	2034	2038	2055	2059	572
25°	1843	1858	1878	1908	1914	849
35°	1593	1612	1650	1691	1702	994
45°	1284	1315	1373	1425	1437	990
55°	957	1000	1073	1128	1140	858
65°	630	678	765	828	844	627
75°	320	381	480	545	560	338
85°	66	121	150	146	146	79
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2130.0	2130.0	2130.0	2130.0	2130.0
2.5°	2131.9	2131.9	2122.3	2131.9	2133.8
5°	2120.3	2124.2	2114.6	2126.1	2128.0
7.5°	2108.8	2108.8	2103.0	2114.6	2116.5
10°	2087.6	2089.5	2087.6	2101.1	2103.0
12.5°	2060.6	2064.5	2066.4	2079.9	2081.8
15°	2027.9	2033.7	2037.5	2054.9	2058.7
17.5°	1991.3	1997.1	2006.7	2026.0	2029.8
20°	1947.0	1954.7	1966.3	1991.3	1997.1
22.5°	1898.9	1906.6	1925.8	1948.9	1958.6
25°	1843.0	1858.4	1877.7	1908.5	1914.3
27.5°	1787.2	1800.7	1825.7	1858.4	1866.1
30°	1721.7	1742.9	1773.7	1806.4	1814.1
32.5°	1658.1	1679.3	1715.9	1750.6	1760.2
35°	1592.7	1611.9	1650.4	1690.9	1702.4
37.5°	1517.6	1542.6	1585.0	1625.4	1637.0
40°	1438.6	1469.4	1517.6	1559.9	1573.4
42.5°	1363.5	1396.2	1444.4	1490.6	1506.0
45°	1284.5	1315.3	1373.1	1425.1	1436.7
47.5°	1203.6	1238.3	1299.9	1351.9	1371.2
50°	1122.8	1159.4	1224.8	1278.8	1290.3
52.5°	1041.9	1080.4	1149.7	1207.5	1213.3
55°	957.1	999.5	1072.7	1128.5	1140.1
57.5°	880.1	916.7	995.7	1053.4	1066.9
60°	795.4	835.8	920.5	974.5	991.8
62.5°	714.5	756.9	845.4	899.4	914.8
65°	629.7	677.9	764.6	828.1	843.5
67.5°	556.6	602.8	695.2	756.9	772.3
70°	471.8	523.8	622.0	685.6	701.0
72.5°	398.6	452.6	550.8	612.4	635.5
75°	319.7	381.3	479.5	545.0	560.4
77.5°	242.7	313.9	414.1	464.1	464.1
80°	173.3	248.4	340.9	364.0	367.8
82.5°	113.6	186.8	252.3	250.4	250.4
85°	65.5	121.3	150.2	146.4	146.4
87.5°	25.0	50.1	53.9	53.9	52.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)