

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: P314446

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-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: P314446
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-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: 5774.0 lumens
Efficiency: N/A
Efficacy: 121.3 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

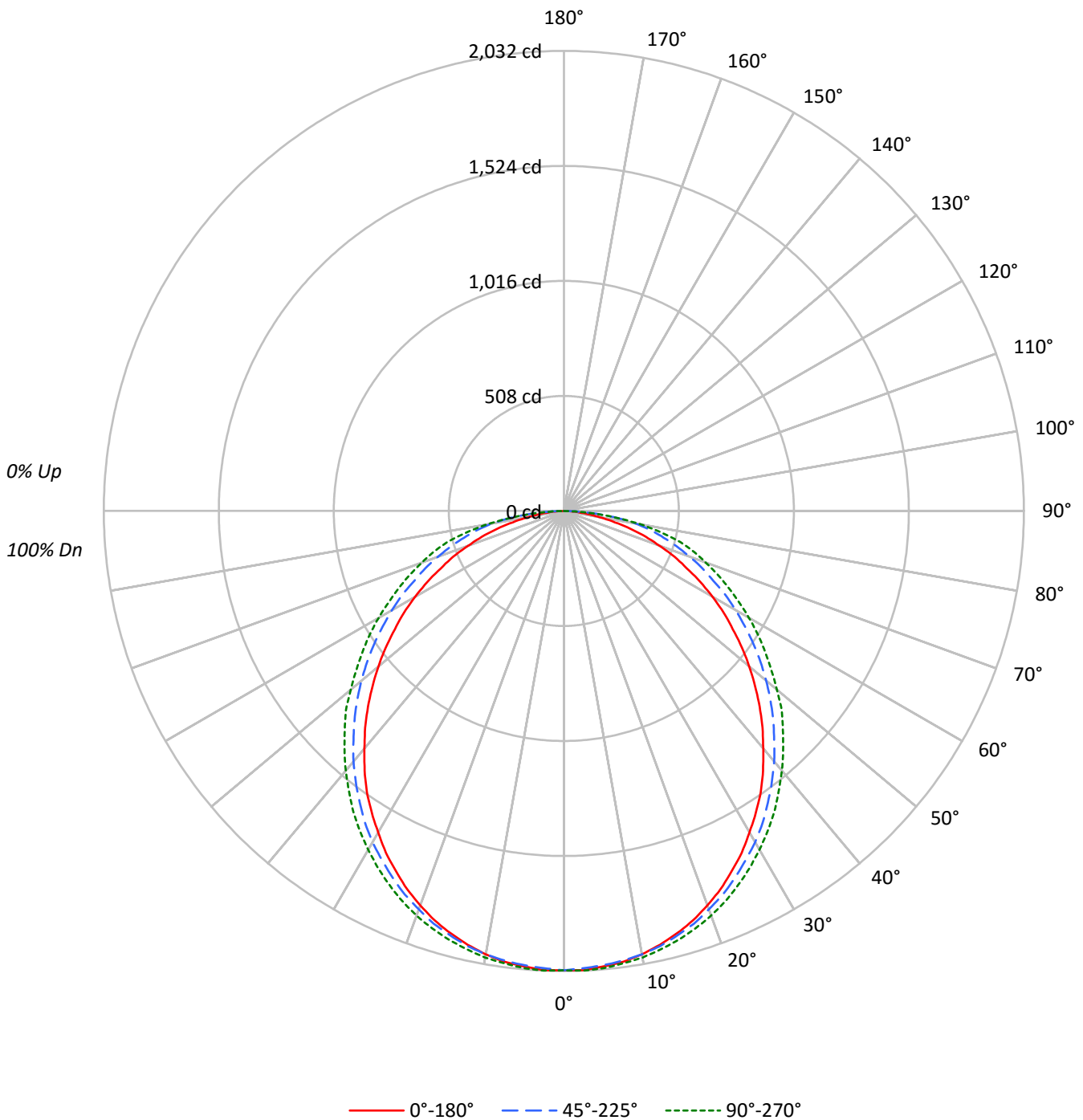
Input Watts (W): 47.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2729	2729	2729
5°	2727	2720	2737
10°	2716	2716	2736
15°	2690	2703	2731
20°	2655	2681	2723
25°	2606	2655	2706
30°	2547	2624	2684
35°	2491	2582	2663
40°	2406	2538	2632
45°	2328	2488	2603
50°	2238	2442	2572
55°	2138	2396	2547
60°	2038	2359	2542
65°	1909	2318	2557
70°	1768	2330	2626
75°	1582	2374	2774
80°	1279	2515	2714
85°	963	2209	2152



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	192.0	3.3
10°-20°	548.7	9.5
20°-30°	824.8	14.3
30°-40°	982.5	17.0
40°-50°	1005.6	17.4
50°-60°	905.3	15.7
60°-70°	710.9	12.3
70°-80°	461.4	8.0
80°-90°	142.7	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°	1565.6	27.1
0°-40°	2548.1	44.1
0°-60°	4458.9	77.2
0°-90°	5774.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5774.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2028	2028	2028	2028	2028	
5°	2019	2023	2014	2025	2027	192
15°	1931	1937	1940	1957	1961	545
25°	1755	1770	1788	1818	1823	809
35°	1517	1535	1572	1610	1621	946
45°	1223	1253	1308	1357	1368	943
55°	912	952	1022	1075	1086	817
65°	600	646	728	789	803	597
75°	304	363	457	519	534	322
85°	62	116	143	139	139	75
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2028.4	2028.4	2028.4	2028.4	2028.4
2.5°	2030.3	2030.3	2021.1	2030.3	2032.1
5°	2019.3	2022.9	2013.8	2024.8	2026.6
7.5°	2008.3	2008.3	2002.8	2013.8	2015.6
10°	1988.1	1989.9	1988.1	2000.9	2002.8
12.5°	1962.4	1966.1	1967.9	1980.8	1982.6
15°	1931.2	1936.7	1940.4	1956.9	1960.6
17.5°	1896.4	1901.9	1911.1	1929.4	1933.1
20°	1854.2	1861.5	1872.6	1896.4	1901.9
22.5°	1808.4	1815.7	1834.0	1856.0	1865.2
25°	1755.2	1769.8	1788.2	1817.5	1823.0
27.5°	1702.0	1714.8	1738.7	1769.8	1777.2
30°	1639.6	1659.8	1689.1	1720.3	1727.7
32.5°	1579.1	1599.3	1634.1	1667.1	1676.3
35°	1516.7	1535.1	1571.8	1610.3	1621.3
37.5°	1445.2	1469.1	1509.4	1547.9	1558.9
40°	1370.0	1399.4	1445.2	1485.6	1498.4
42.5°	1298.5	1329.7	1375.5	1419.5	1434.2
45°	1223.3	1252.6	1307.7	1357.2	1368.2
47.5°	1146.3	1179.3	1238.0	1287.5	1305.8
50°	1069.2	1104.1	1166.4	1217.8	1228.8
52.5°	992.2	1028.9	1094.9	1149.9	1155.4
55°	911.5	951.9	1021.6	1074.7	1085.7
57.5°	838.2	873.0	948.2	1003.2	1016.1
60°	757.5	796.0	876.7	928.0	944.5
62.5°	680.4	720.8	805.1	856.5	871.2
65°	599.7	645.6	728.1	788.6	803.3
67.5°	530.0	574.1	662.1	720.8	735.4
70°	449.3	498.9	592.4	652.9	667.6
72.5°	379.6	431.0	524.5	583.2	605.2
75°	304.4	363.1	456.7	519.0	533.7
77.5°	231.1	298.9	394.3	442.0	442.0
80°	165.1	236.6	324.6	346.6	350.3
82.5°	108.2	177.9	240.3	238.4	238.4
85°	62.4	115.5	143.1	139.4	139.4
87.5°	23.8	47.7	51.4	51.4	49.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)