

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: P314441

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-S-CA08-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: P314441
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-CA08-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" 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: 5795.0 lumens
Efficiency: N/A
Efficacy: 121.7 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

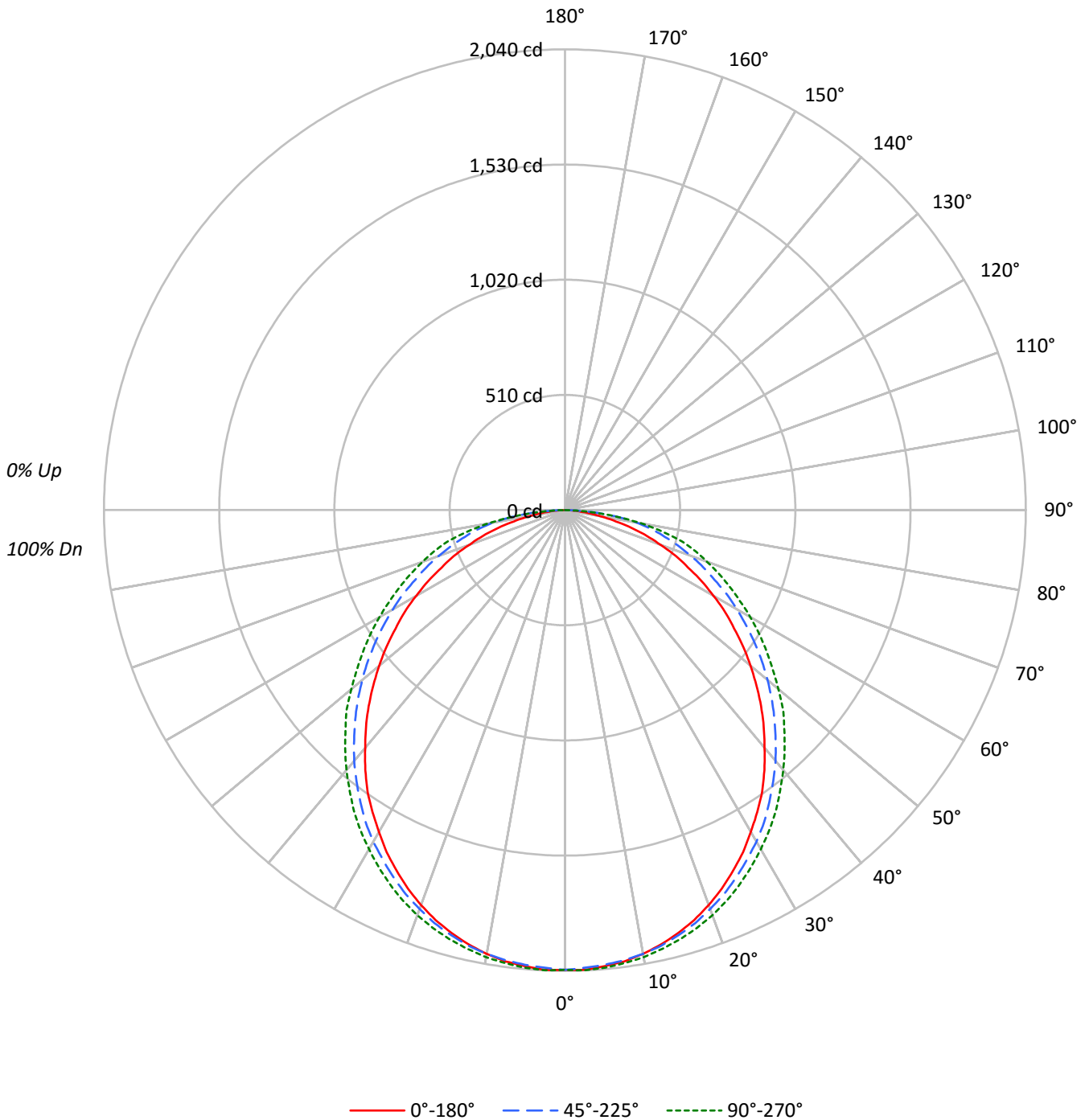
Input Watts (W): 47.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2739	2739	2739
5°	2737	2730	2747
10°	2726	2726	2746
15°	2700	2713	2741
20°	2665	2691	2733
25°	2615	2664	2716
30°	2557	2634	2694
35°	2500	2591	2673
40°	2415	2548	2641
45°	2336	2497	2613
50°	2246	2451	2582
55°	2146	2405	2556
60°	2046	2368	2551
65°	1916	2327	2567
70°	1774	2339	2636
75°	1589	2383	2784
80°	1284	2524	2724
85°	966	2217	2160



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	192.7	3.3
10°-20°	550.7	9.5
20°-30°	827.8	14.3
30°-40°	986.1	17.0
40°-50°	1009.2	17.4
50°-60°	908.6	15.7
60°-70°	713.5	12.3
70°-80°	463.1	8.0
80°-90°	143.2	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°	1571.3	27.1
0°-40°	2557.4	44.1
0°-60°	4475.2	77.2
0°-90°	5795.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5795.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2036	2036	2036	2036	2036	
5°	2027	2030	2021	2032	2034	193
15°	1938	1944	1948	1964	1968	547
25°	1762	1776	1795	1824	1830	812
35°	1522	1541	1578	1616	1627	950
45°	1228	1257	1312	1362	1373	947
55°	915	955	1025	1079	1090	820
65°	602	648	731	792	806	599
75°	306	364	458	521	536	323
85°	63	116	144	140	140	76
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2035.8	2035.8	2035.8	2035.8	2035.8
2.5°	2037.7	2037.7	2028.5	2037.7	2039.5
5°	2026.6	2030.3	2021.1	2032.1	2034.0
7.5°	2015.6	2015.6	2010.1	2021.1	2022.9
10°	1995.3	1997.2	1995.3	2008.2	2010.1
12.5°	1969.6	1973.2	1975.1	1988.0	1989.8
15°	1938.3	1943.8	1947.5	1964.0	1967.7
17.5°	1903.3	1908.8	1918.0	1936.4	1940.1
20°	1861.0	1868.3	1879.4	1903.3	1908.8
22.5°	1814.9	1822.3	1840.7	1862.8	1872.0
25°	1761.6	1776.3	1794.7	1824.1	1829.7
27.5°	1708.2	1721.1	1745.0	1776.3	1783.6
30°	1645.6	1665.8	1695.3	1726.6	1733.9
32.5°	1584.8	1605.1	1640.1	1673.2	1682.4
35°	1522.3	1540.7	1577.5	1616.1	1627.2
37.5°	1450.5	1474.4	1514.9	1553.6	1564.6
40°	1375.0	1404.5	1450.5	1491.0	1503.9
42.5°	1303.2	1334.5	1380.5	1424.7	1439.4
45°	1227.8	1257.2	1312.4	1362.1	1373.2
47.5°	1150.4	1183.6	1242.5	1292.2	1310.6
50°	1073.1	1108.1	1170.7	1222.2	1233.3
52.5°	995.8	1032.6	1098.9	1154.1	1159.6
55°	914.8	955.3	1025.3	1078.7	1089.7
57.5°	841.2	876.2	951.6	1006.9	1019.8
60°	760.2	798.9	879.9	931.4	948.0
62.5°	682.9	723.4	808.1	859.6	874.3
65°	601.9	647.9	730.8	791.5	806.2
67.5°	532.0	576.1	664.5	723.4	738.1
70°	451.0	500.7	594.5	655.3	670.0
72.5°	381.0	432.6	526.4	585.3	607.4
75°	305.6	364.5	458.3	520.9	535.6
77.5°	231.9	300.0	395.8	443.6	443.6
80°	165.7	237.5	325.8	347.9	351.6
82.5°	108.6	178.5	241.1	239.3	239.3
85°	62.6	116.0	143.6	139.9	139.9
87.5°	23.9	47.9	51.5	51.5	49.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)