

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: P314088

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-CP250-W2A-U-4500K**

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: P314088
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
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-CP250-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 4500K 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: 5425.0 lumens
Efficiency: N/A
Efficacy: 108.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

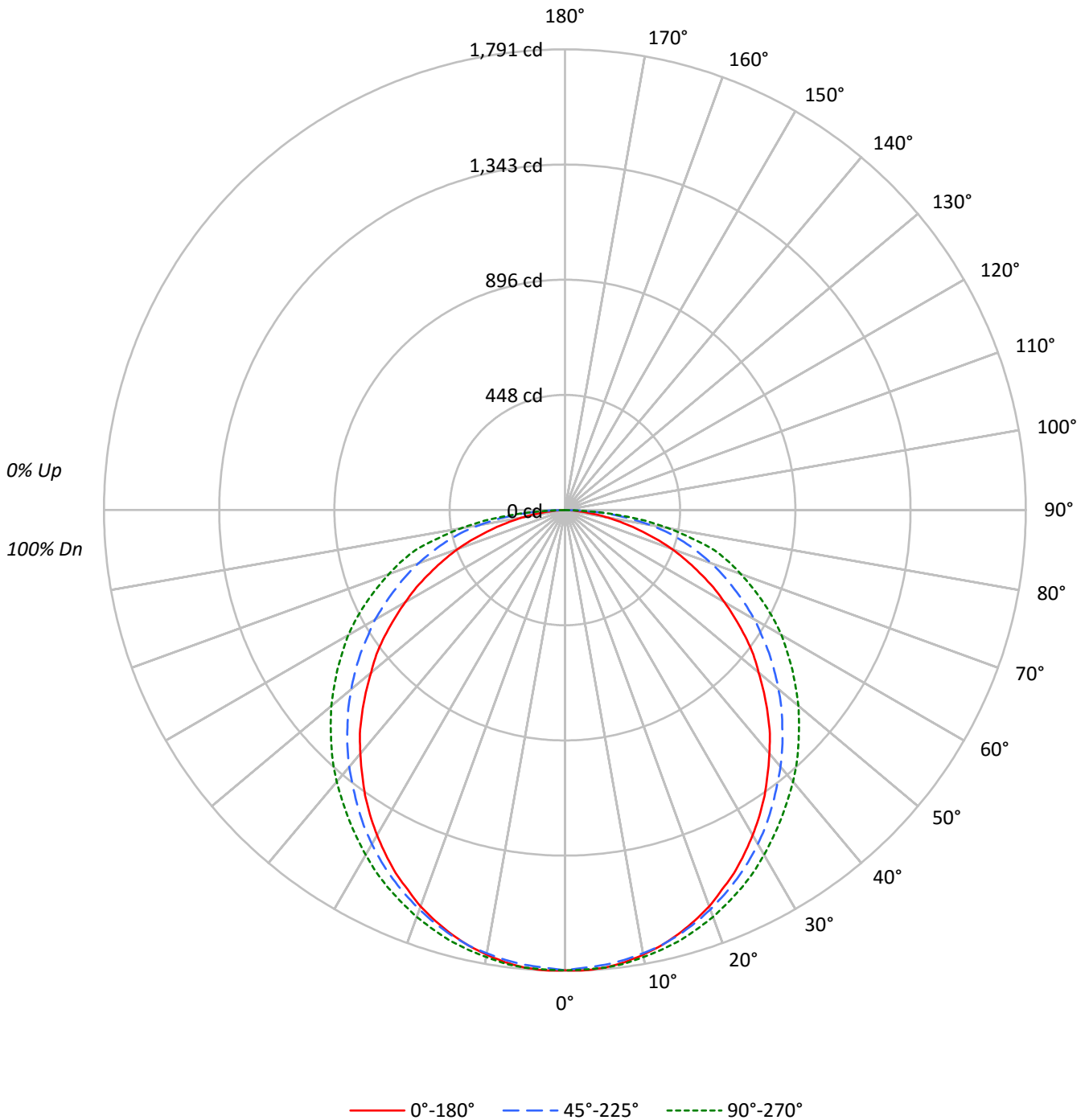
Input Watts (W): 49.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2407	2407	2407
5°	2412	2397	2412
10°	2398	2390	2410
15°	2377	2382	2412
20°	2348	2366	2410
25°	2311	2349	2408
30°	2268	2329	2405
35°	2223	2306	2406
40°	2172	2289	2422
45°	2120	2274	2442
50°	2057	2268	2479
55°	2006	2272	2529
60°	1928	2291	2616
65°	1840	2315	2711
70°	1742	2386	2861
75°	1553	2489	3125
80°	1325	2636	3194
85°	945	2612	3057



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	169.3	3.1
10°-20°	484.1	8.9
20°-30°	731.2	13.5
30°-40°	881.3	16.2
40°-50°	925.2	17.1
50°-60°	865.6	16.0
60°-70°	714.9	13.2
70°-80°	487.1	9.0
80°-90°	166.1	3.1
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°	1384.7	25.5
0°-40°	2266.0	41.8
0°-60°	4056.9	74.8
0°-90°	5425.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5425.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1789	1789	1789	1789	1789	
5°	1786	1784	1775	1786	1786	169
15°	1706	1708	1710	1728	1732	481
25°	1557	1564	1582	1613	1622	716
35°	1354	1368	1404	1451	1465	846
45°	1114	1138	1195	1260	1283	859
55°	855	889	968	1048	1078	763
65°	578	626	727	819	851	573
75°	299	367	479	569	601	319
85°	61	121	169	191	198	77
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1789.1	1789.1	1789.1	1789.1	1789.1
2.5°	1790.9	1789.1	1780.1	1789.1	1787.3
5°	1785.5	1783.7	1774.7	1785.5	1785.5
7.5°	1772.9	1772.9	1763.9	1776.5	1778.3
10°	1754.9	1754.9	1749.5	1763.9	1763.9
12.5°	1733.3	1733.3	1733.3	1747.7	1749.5
15°	1706.3	1708.1	1709.9	1727.9	1731.5
17.5°	1673.9	1677.5	1682.9	1704.5	1708.1
20°	1639.7	1643.3	1652.3	1677.5	1682.9
22.5°	1596.5	1605.5	1618.1	1646.9	1652.3
25°	1556.9	1564.1	1582.1	1612.7	1621.7
27.5°	1508.3	1519.1	1542.5	1574.9	1587.5
30°	1459.7	1470.5	1499.3	1537.1	1547.9
32.5°	1407.5	1423.7	1454.3	1493.9	1506.5
35°	1353.5	1367.9	1403.9	1450.7	1465.1
37.5°	1294.1	1313.9	1353.5	1403.9	1421.9
40°	1236.5	1258.1	1303.1	1357.1	1378.7
42.5°	1178.9	1200.5	1250.9	1312.1	1333.7
45°	1114.1	1137.5	1195.1	1259.9	1283.3
47.5°	1049.4	1078.2	1141.1	1209.5	1234.7
50°	982.8	1015.2	1083.6	1155.5	1184.3
52.5°	923.4	954.0	1026.0	1103.3	1130.3
55°	855.0	889.2	968.4	1047.6	1078.2
57.5°	784.8	822.6	907.2	993.6	1024.2
60°	716.4	757.8	851.4	937.8	972.0
62.5°	649.8	691.2	788.4	878.4	912.6
65°	577.8	626.4	727.2	819.0	851.4
67.5°	509.4	561.6	667.8	757.8	790.2
70°	442.8	493.2	606.6	694.8	727.2
72.5°	370.8	428.4	541.8	633.6	667.8
75°	298.8	367.2	478.8	568.8	601.2
77.5°	232.2	302.4	414.0	487.8	504.0
80°	171.0	243.0	340.2	392.4	412.2
82.5°	109.8	181.8	259.2	297.0	313.2
85°	61.2	120.6	169.2	190.8	198.0
87.5°	25.2	52.2	68.4	77.4	77.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)