

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: P311029

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-CP250-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: P311029
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-L82765-CP250-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" 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: 5350.0 lumens
Efficiency: N/A
Efficacy: 107.6 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

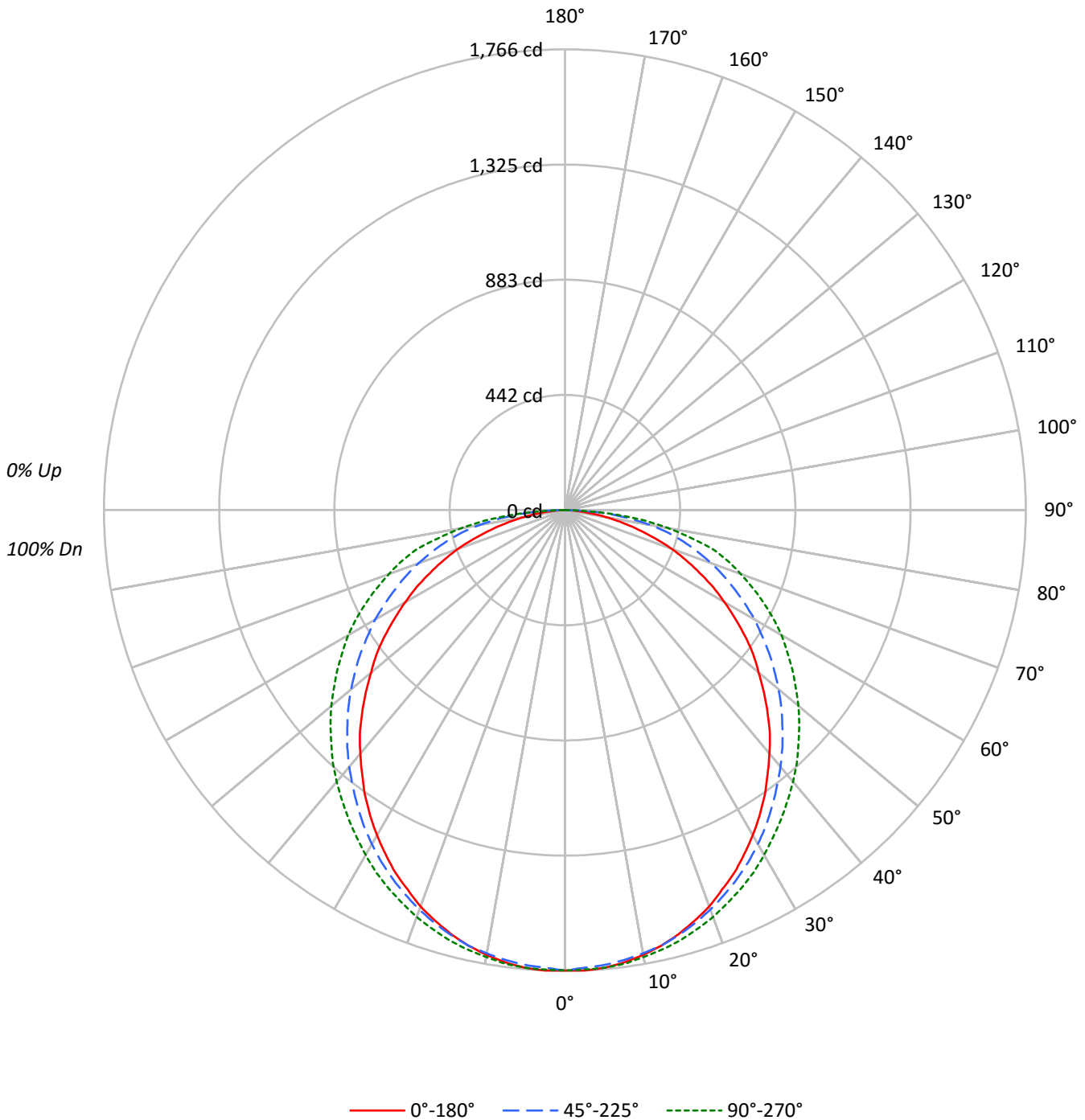
Input Watts (W): 49.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	2374	2374	2374
5°	2378	2364	2378
10°	2365	2357	2377
15°	2344	2349	2379
20°	2315	2333	2376
25°	2279	2316	2374
30°	2237	2297	2372
35°	2192	2274	2373
40°	2142	2257	2388
45°	2091	2243	2408
50°	2029	2237	2445
55°	1978	2240	2494
60°	1901	2259	2579
65°	1814	2283	2673
70°	1718	2353	2821
75°	1532	2455	3082
80°	1306	2600	3150
85°	932	2577	3015



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	167.0	3.1
10°-20°	477.5	8.9
20°-30°	721.2	13.5
30°-40°	869.1	16.2
40°-50°	912.4	17.1
50°-60°	853.7	16.0
60°-70°	705.0	13.2
70°-80°	480.4	9.0
80°-90°	163.8	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°	1365.6	25.5
0°-40°	2234.7	41.8
0°-60°	4000.8	74.8
0°-90°	5350.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5350.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1764	1764	1764	1764	1764	
5°	1761	1759	1750	1761	1761	167
15°	1683	1684	1686	1704	1708	474
25°	1535	1542	1560	1590	1599	706
35°	1335	1349	1384	1431	1445	834
45°	1099	1122	1179	1242	1266	847
55°	843	877	955	1033	1063	753
65°	570	618	717	808	840	565
75°	295	362	472	561	593	314
85°	60	119	167	188	195	76
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1764.4	1764.4	1764.4	1764.4	1764.4
2.5°	1766.2	1764.4	1755.5	1764.4	1762.6
5°	1760.8	1759.1	1750.2	1760.8	1760.8
7.5°	1748.4	1748.4	1739.5	1752.0	1753.7
10°	1730.7	1730.7	1725.3	1739.5	1739.5
12.5°	1709.4	1709.4	1709.4	1723.6	1725.3
15°	1682.7	1684.5	1686.3	1704.0	1707.6
17.5°	1650.8	1654.3	1659.7	1681.0	1684.5
20°	1617.1	1620.6	1629.5	1654.3	1659.7
22.5°	1574.5	1583.3	1595.8	1624.2	1629.5
25°	1535.4	1542.5	1560.3	1590.4	1599.3
27.5°	1487.5	1498.1	1521.2	1553.2	1565.6
30°	1439.6	1450.2	1478.6	1515.9	1526.5
32.5°	1388.1	1404.1	1434.2	1473.3	1485.7
35°	1334.8	1349.0	1384.5	1430.7	1444.9
37.5°	1276.2	1295.8	1334.8	1384.5	1402.3
40°	1219.4	1240.7	1285.1	1338.4	1359.7
42.5°	1162.6	1183.9	1233.6	1294.0	1315.3
45°	1098.7	1121.8	1178.6	1242.5	1265.6
47.5°	1034.8	1063.2	1125.4	1192.8	1217.7
50°	969.2	1001.1	1068.6	1139.6	1168.0
52.5°	910.6	940.8	1011.8	1088.1	1114.7
55°	843.1	876.9	955.0	1033.1	1063.2
57.5°	773.9	811.2	894.6	979.8	1010.0
60°	706.5	747.3	839.6	924.8	958.5
62.5°	640.8	681.6	777.5	866.2	899.9
65°	569.8	617.7	717.1	807.6	839.6
67.5°	502.3	553.8	658.5	747.3	779.2
70°	436.7	486.4	598.2	685.2	717.1
72.5°	365.7	422.5	534.3	624.8	658.5
75°	294.7	362.1	472.2	560.9	592.9
77.5°	229.0	298.2	408.3	481.0	497.0
80°	168.6	239.6	335.5	387.0	406.5
82.5°	108.3	179.3	255.6	292.9	308.9
85°	60.4	118.9	166.9	188.2	195.3
87.5°	24.9	51.5	67.5	76.3	76.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)