

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: P314086

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-CP250-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: P314086
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-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB 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: 5118.0 lumens
Efficiency: N/A
Efficacy: 107.5 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

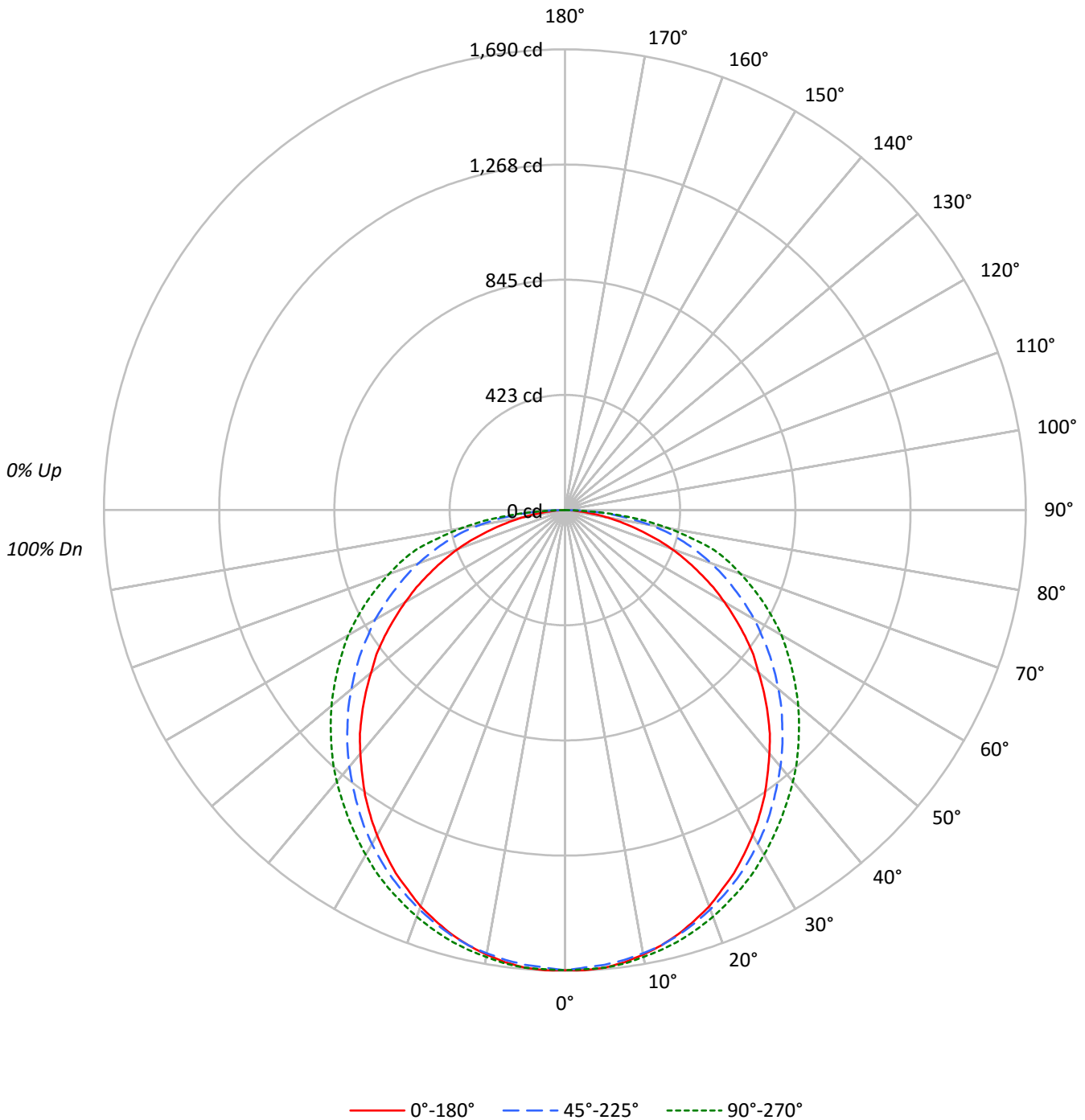
Input Watts (W): 47.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	2271	2271	2271
5°	2275	2261	2275
10°	2262	2255	2274
15°	2242	2247	2275
20°	2215	2232	2273
25°	2181	2216	2271
30°	2140	2198	2269
35°	2097	2176	2270
40°	2049	2159	2285
45°	2000	2145	2304
50°	1941	2140	2339
55°	1892	2143	2386
60°	1819	2161	2468
65°	1735	2184	2557
70°	1643	2251	2699
75°	1465	2348	2949
80°	1250	2486	3013
85°	891	2464	2884



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	159.7	3.1
10°-20°	456.7	8.9
20°-30°	689.9	13.5
30°-40°	831.5	16.2
40°-50°	872.9	17.1
50°-60°	816.6	16.0
60°-70°	674.4	13.2
70°-80°	459.5	9.0
80°-90°	156.7	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°	1306.4	25.5
0°-40°	2137.8	41.8
0°-60°	3827.3	74.8
0°-90°	5118.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5118.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1688	1688	1688	1688	1688	
5°	1684	1683	1674	1684	1684	160
15°	1610	1612	1613	1630	1634	454
25°	1469	1476	1493	1522	1530	676
35°	1277	1290	1324	1369	1382	798
45°	1051	1073	1128	1189	1211	811
55°	807	839	914	988	1017	720
65°	545	591	686	773	803	541
75°	282	346	452	537	567	301
85°	58	114	160	180	187	72
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1687.9	1687.9	1687.9	1687.9	1687.9
2.5°	1689.6	1687.9	1679.4	1687.9	1686.2
5°	1684.5	1682.8	1674.3	1684.5	1684.5
7.5°	1672.6	1672.6	1664.1	1676.0	1677.7
10°	1655.6	1655.6	1650.5	1664.1	1664.1
12.5°	1635.2	1635.2	1635.2	1648.8	1650.5
15°	1609.8	1611.5	1613.2	1630.1	1633.5
17.5°	1579.2	1582.6	1587.7	1608.1	1611.5
20°	1546.9	1550.3	1558.8	1582.6	1587.7
22.5°	1506.2	1514.7	1526.6	1553.7	1558.8
25°	1468.8	1475.6	1492.6	1521.5	1530.0
27.5°	1423.0	1433.2	1455.2	1485.8	1497.7
30°	1377.1	1387.3	1414.5	1450.1	1460.3
32.5°	1327.9	1343.2	1372.0	1409.4	1421.3
35°	1276.9	1290.5	1324.5	1368.6	1382.2
37.5°	1220.9	1239.6	1276.9	1324.5	1341.5
40°	1166.6	1186.9	1229.4	1280.3	1300.7
42.5°	1112.2	1132.6	1180.2	1237.9	1258.3
45°	1051.1	1073.2	1127.5	1188.6	1210.7
47.5°	990.0	1017.1	1076.6	1141.1	1164.9
50°	927.1	957.7	1022.2	1090.2	1117.3
52.5°	871.1	900.0	967.9	1040.9	1066.4
55°	806.6	838.8	913.6	988.3	1017.1
57.5°	740.4	776.0	855.8	937.3	966.2
60°	675.8	714.9	803.2	884.7	917.0
62.5°	613.0	652.1	743.8	828.7	860.9
65°	545.1	590.9	686.0	772.6	803.2
67.5°	480.6	529.8	630.0	714.9	745.4
70°	417.7	465.3	572.2	655.5	686.0
72.5°	349.8	404.1	511.1	597.7	630.0
75°	281.9	346.4	451.7	536.6	567.2
77.5°	219.0	285.3	390.6	460.2	475.5
80°	161.3	229.2	320.9	370.2	388.9
82.5°	103.6	171.5	244.5	280.2	295.5
85°	57.7	113.8	159.6	180.0	186.8
87.5°	23.8	49.2	64.5	73.0	73.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)