

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: P314065

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-CA08-W2A-U-3000K**

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: P314065
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-CA08-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 3000K 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

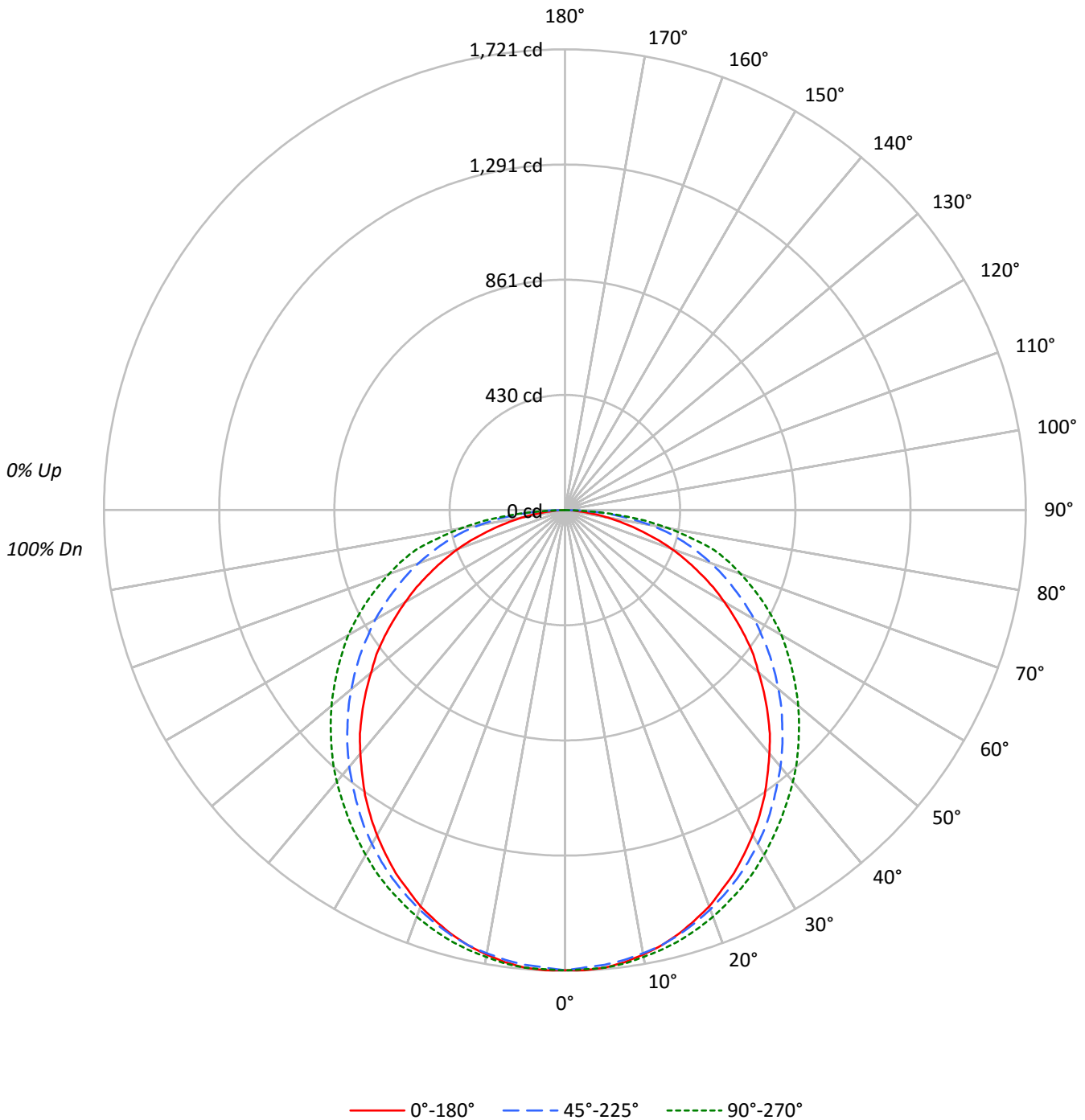
Lumens per Lamp: N/A
Luminaire Lumens: 5212.0 lumens
Efficiency: N/A
Efficacy: 109.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 47.5
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°	2313	2313	2313
5°	2317	2303	2317
10°	2303	2296	2315
15°	2283	2288	2317
20°	2256	2273	2315
25°	2221	2257	2313
30°	2179	2238	2311
35°	2136	2215	2312
40°	2087	2199	2327
45°	2037	2185	2346
50°	1976	2179	2382
55°	1927	2182	2430
60°	1852	2201	2513
65°	1767	2224	2604
70°	1674	2293	2748
75°	1493	2391	3003
80°	1273	2532	3068
85°	908	2509	2936



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.7	3.1
10°-20°	465.1	8.9
20°-30°	702.5	13.5
30°-40°	846.7	16.2
40°-50°	888.9	17.1
50°-60°	831.6	16.0
60°-70°	686.8	13.2
70°-80°	468.0	9.0
80°-90°	159.6	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°	1330.4	25.5
0°-40°	2177.1	41.8
0°-60°	3897.6	74.8
0°-90°	5212.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5212.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1719	1719	1719	1719	1719	
5°	1715	1714	1705	1715	1715	163
15°	1639	1641	1643	1660	1664	462
25°	1496	1503	1520	1549	1558	688
35°	1300	1314	1349	1394	1408	813
45°	1070	1093	1148	1210	1233	826
55°	821	854	930	1006	1036	733
65°	555	602	699	787	818	551
75°	287	353	460	546	578	306
85°	59	116	162	183	190	74
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1718.9	1718.9	1718.9	1718.9	1718.9
2.5°	1720.6	1718.9	1710.2	1718.9	1717.1
5°	1715.4	1713.7	1705.0	1715.4	1715.4
7.5°	1703.3	1703.3	1694.7	1706.8	1708.5
10°	1686.0	1686.0	1680.8	1694.7	1694.7
12.5°	1665.3	1665.3	1665.3	1679.1	1680.8
15°	1639.3	1641.1	1642.8	1660.1	1663.5
17.5°	1608.2	1611.7	1616.8	1637.6	1641.1
20°	1575.3	1578.8	1587.4	1611.7	1616.8
22.5°	1533.8	1542.5	1554.6	1582.3	1587.4
25°	1495.8	1502.7	1520.0	1549.4	1558.1
27.5°	1449.1	1459.5	1482.0	1513.1	1525.2
30°	1402.4	1412.8	1440.5	1476.8	1487.2
32.5°	1352.3	1367.8	1397.2	1435.3	1447.4
35°	1300.4	1314.2	1348.8	1393.8	1407.6
37.5°	1243.3	1262.4	1300.4	1348.8	1366.1
40°	1188.0	1208.7	1252.0	1303.9	1324.6
42.5°	1132.7	1153.4	1201.8	1260.6	1281.4
45°	1070.4	1092.9	1148.2	1210.5	1233.0
47.5°	1008.2	1035.8	1096.3	1162.1	1186.3
50°	944.2	975.3	1041.0	1110.2	1137.8
52.5°	887.1	916.5	985.7	1060.0	1086.0
55°	821.4	854.2	930.3	1006.4	1035.8
57.5°	754.0	790.3	871.5	954.5	983.9
60°	688.2	728.0	817.9	900.9	933.8
62.5°	624.3	664.0	757.4	843.9	876.7
65°	555.1	601.8	698.6	786.8	817.9
67.5°	489.4	539.5	641.6	728.0	759.1
70°	425.4	473.8	582.8	667.5	698.6
72.5°	356.2	411.6	520.5	608.7	641.6
75°	287.1	352.8	460.0	546.4	577.6
77.5°	223.1	290.5	397.7	468.6	484.2
80°	164.3	233.4	326.8	377.0	396.0
82.5°	105.5	174.7	249.0	285.3	300.9
85°	58.8	115.9	162.5	183.3	190.2
87.5°	24.2	50.1	65.7	74.4	74.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)