

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: P313366

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-HRP-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: P313366
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-70HE-UNV-L83050-HRP-CA08-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. 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: 5008.0 lumens
Efficiency: N/A
Efficacy: 86.8 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

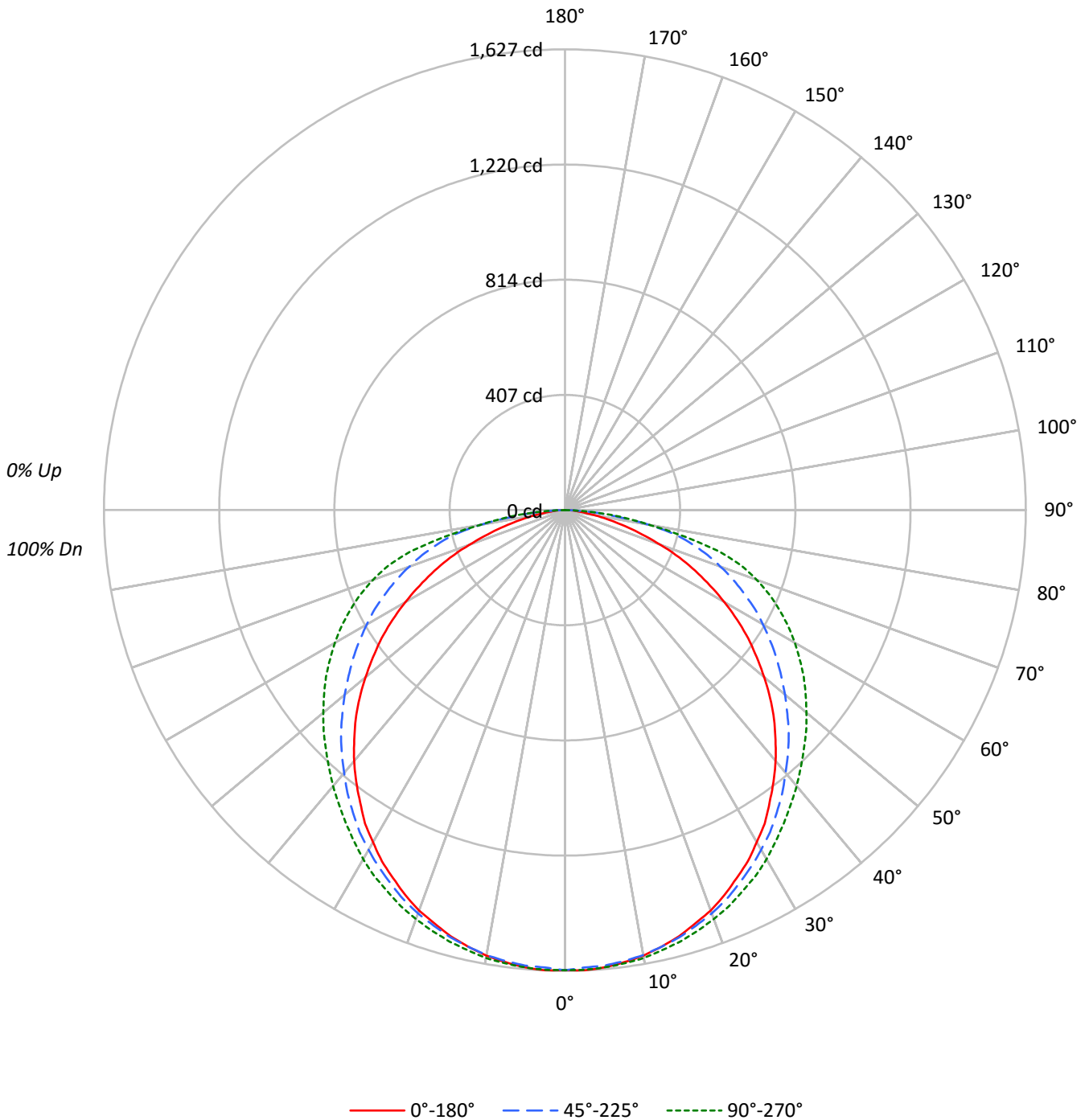
Input Watts (W): 57.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	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	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2186	2186	2186
5°	2189	2180	2189
10°	2183	2180	2194
15°	2170	2176	2196
20°	2155	2170	2200
25°	2129	2160	2204
30°	2104	2153	2212
35°	2070	2142	2214
40°	2033	2128	2235
45°	1987	2126	2270
50°	1922	2124	2330
55°	1854	2139	2415
60°	1749	2172	2522
65°	1615	2223	2663
70°	1410	2301	2837
75°	1144	2419	2932
80°	845	2372	2372
85°	647	1748	1974



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.9	3.1
10°-20°	442.0	8.8
20°-30°	672.9	13.4
30°-40°	817.1	16.3
40°-50°	863.2	17.2
50°-60°	814.6	16.3
60°-70°	677.3	13.5
70°-80°	445.6	8.9
80°-90°	121.4	2.4
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°	1268.8	25.3
0°-40°	2085.9	41.7
0°-60°	3763.7	75.2
0°-90°	5008.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5008.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1625	1625	1625	1625	1625	
5°	1621	1621	1614	1621	1621	154
15°	1558	1560	1562	1577	1577	439
25°	1434	1442	1455	1480	1484	662
35°	1260	1275	1304	1338	1348	789
45°	1044	1065	1118	1172	1193	804
55°	790	824	912	998	1029	704
65°	507	566	698	801	836	502
75°	220	321	465	551	564	237
85°	42	92	113	126	128	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1624.8	1624.8	1624.8	1624.8	1624.8
2.5°	1626.9	1624.8	1616.5	1624.8	1624.8
5°	1620.7	1620.7	1614.4	1620.7	1620.7
7.5°	1610.2	1610.2	1606.0	1614.4	1614.4
10°	1597.6	1597.6	1595.5	1606.0	1606.0
12.5°	1578.7	1580.8	1578.7	1591.3	1591.3
15°	1557.8	1559.9	1562.0	1576.6	1576.6
17.5°	1530.5	1534.7	1538.9	1555.7	1557.8
20°	1505.3	1507.4	1515.8	1534.7	1536.8
22.5°	1471.8	1478.1	1488.6	1507.4	1513.7
25°	1434.1	1442.4	1455.0	1480.2	1484.4
27.5°	1398.4	1404.7	1421.5	1448.7	1457.1
30°	1354.4	1364.9	1385.8	1413.1	1423.6
32.5°	1312.5	1322.9	1348.1	1377.5	1385.8
35°	1260.0	1274.7	1304.1	1337.6	1348.1
37.5°	1209.7	1224.4	1260.0	1297.8	1310.4
40°	1157.3	1174.1	1211.8	1255.9	1272.6
42.5°	1100.7	1123.8	1165.7	1213.9	1232.8
45°	1044.1	1065.1	1117.5	1172.0	1193.0
47.5°	983.3	1008.5	1065.1	1130.1	1155.2
50°	918.3	949.8	1014.7	1086.0	1113.3
52.5°	853.3	888.9	962.3	1042.0	1071.4
55°	790.4	824.0	912.0	998.0	1029.4
57.5°	721.2	763.2	859.6	951.8	983.3
60°	649.9	696.1	807.2	903.6	937.2
62.5°	578.7	631.1	756.9	853.3	888.9
65°	507.4	566.1	698.2	800.9	836.5
67.5°	438.2	503.2	643.7	746.4	782.0
70°	358.5	440.3	584.9	685.6	721.2
72.5°	285.1	379.5	528.3	622.7	654.1
75°	220.1	320.8	465.4	551.4	564.0
77.5°	161.4	262.1	400.4	429.8	431.9
80°	109.0	209.7	306.1	301.9	306.1
82.5°	71.3	157.2	192.9	215.9	218.0
85°	41.9	92.2	113.2	125.8	127.9
87.5°	21.0	31.4	39.8	41.9	46.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)