

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: P313367

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-HRP-CA08-W2A-U-4000K**

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: P313367
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-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 4000K 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: 5258.0 lumens
Efficiency: N/A
Efficacy: 89.1 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

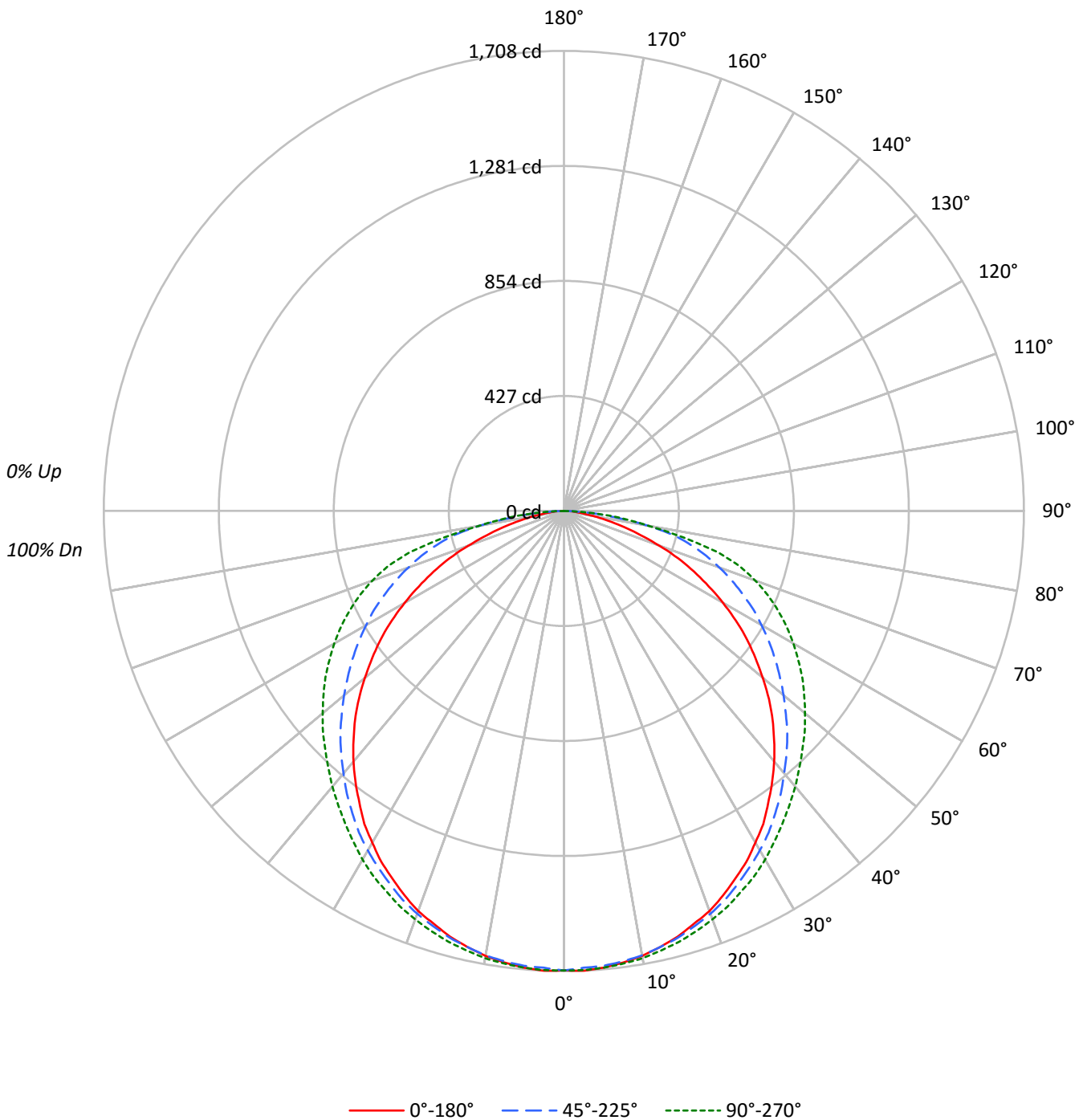
Input Watts (W): 59
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2295	2295	2295
5°	2298	2289	2298
10°	2292	2289	2304
15°	2278	2284	2306
20°	2263	2279	2310
25°	2235	2268	2314
30°	2209	2261	2322
35°	2173	2249	2325
40°	2134	2235	2347
45°	2086	2233	2383
50°	2018	2230	2447
55°	1947	2246	2535
60°	1836	2281	2648
65°	1696	2334	2796
70°	1481	2416	2979
75°	1201	2541	3078
80°	887	2490	2490
85°	679	1836	2073



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	161.6	3.1
10°-20°	464.1	8.8
20°-30°	706.5	13.4
30°-40°	857.9	16.3
40°-50°	906.3	17.2
50°-60°	855.2	16.3
60°-70°	711.1	13.5
70°-80°	467.8	8.9
80°-90°	127.5	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°	1332.2	25.3
0°-40°	2190.0	41.7
0°-60°	3951.6	75.2
0°-90°	5258.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5258.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1706	1706	1706	1706	1706	
5°	1702	1702	1695	1702	1702	162
15°	1636	1638	1640	1655	1655	461
25°	1506	1514	1528	1554	1558	695
35°	1323	1338	1369	1404	1415	828
45°	1096	1118	1173	1230	1252	844
55°	830	865	958	1048	1081	739
65°	533	594	733	841	878	527
75°	231	337	489	579	592	249
85°	44	97	119	132	134	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1706.0	1706.0	1706.0	1706.0	1706.0
2.5°	1708.2	1706.0	1697.2	1706.0	1706.0
5°	1701.6	1701.6	1695.0	1701.6	1701.6
7.5°	1690.6	1690.6	1686.2	1695.0	1695.0
10°	1677.3	1677.3	1675.1	1686.2	1686.2
12.5°	1657.5	1659.7	1657.5	1670.7	1670.7
15°	1635.5	1637.7	1639.9	1655.3	1655.3
17.5°	1606.9	1611.3	1615.7	1633.3	1635.5
20°	1580.5	1582.7	1591.5	1611.3	1613.5
22.5°	1545.3	1551.9	1562.9	1582.7	1589.3
25°	1505.6	1514.5	1527.7	1554.1	1558.5
27.5°	1468.2	1474.8	1492.4	1521.1	1529.9
30°	1422.0	1433.0	1455.0	1483.6	1494.6
32.5°	1378.0	1389.0	1415.4	1446.2	1455.0
35°	1322.9	1338.4	1369.2	1404.4	1415.4
37.5°	1270.1	1285.5	1322.9	1362.6	1375.8
40°	1215.1	1232.7	1272.3	1318.5	1336.2
42.5°	1155.7	1179.9	1223.9	1274.5	1294.3
45°	1096.2	1118.2	1173.3	1230.5	1252.5
47.5°	1032.4	1058.8	1118.2	1186.5	1212.9
50°	964.1	997.2	1065.4	1140.2	1168.9
52.5°	895.9	933.3	1010.4	1094.0	1124.8
55°	829.9	865.1	957.5	1047.8	1080.8
57.5°	757.2	801.3	902.5	999.4	1032.4
60°	682.4	730.8	847.5	948.7	984.0
62.5°	607.5	662.6	794.6	895.9	933.3
65°	532.7	594.3	733.0	840.9	878.3
67.5°	460.1	528.3	675.8	783.6	821.1
70°	376.4	462.3	614.1	719.8	757.2
72.5°	299.4	398.4	554.7	653.8	686.8
75°	231.1	336.8	488.7	578.9	592.1
77.5°	169.5	275.2	420.4	451.3	453.5
80°	114.5	220.1	321.4	317.0	321.4
82.5°	74.8	165.1	202.5	226.7	228.9
85°	44.0	96.9	118.9	132.1	134.3
87.5°	22.0	33.0	41.8	44.0	48.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)