

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: P309772

Luminaire Tested: **24FCZ2-75HE-UNV-L82765-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: P309772
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: 24FCZ2-75HE-UNV-L82765-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: 5106.0 lumens
Efficiency: N/A
Efficacy: 80.9 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

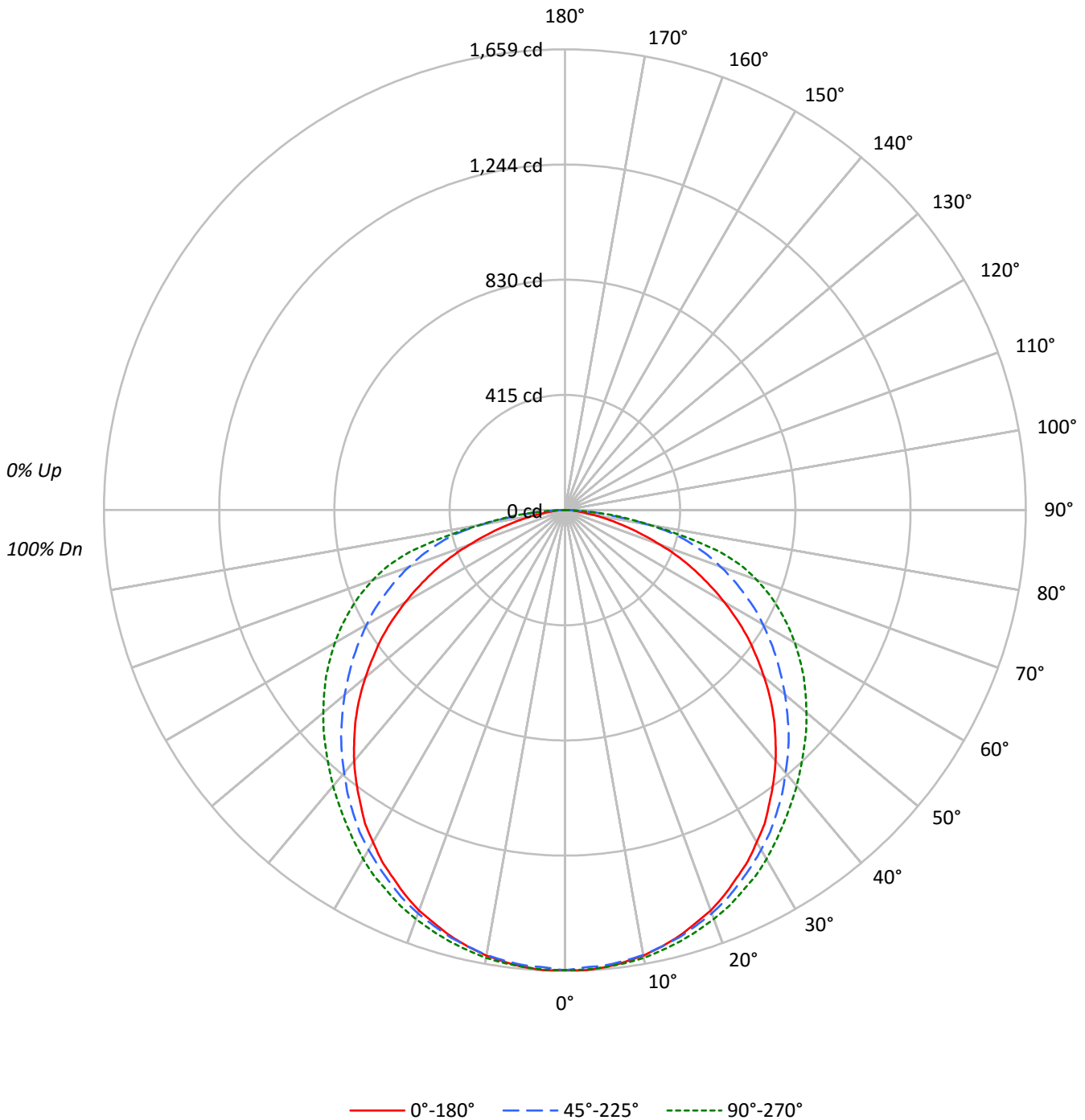
Input Watts (W): 63.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2229	2229	2229
5°	2232	2223	2232
10°	2225	2222	2237
15°	2212	2218	2239
20°	2198	2213	2244
25°	2171	2202	2247
30°	2145	2195	2255
35°	2110	2184	2258
40°	2073	2170	2279
45°	2026	2168	2314
50°	1960	2166	2376
55°	1890	2181	2462
60°	1783	2215	2571
65°	1647	2266	2715
70°	1438	2346	2893
75°	1167	2467	2989
80°	862	2418	2418
85°	661	1782	2013



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.9	3.1
10°-20°	450.7	8.8
20°-30°	686.1	13.4
30°-40°	833.1	16.3
40°-50°	880.1	17.2
50°-60°	830.5	16.3
60°-70°	690.5	13.5
70°-80°	454.3	8.9
80°-90°	123.8	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°	1293.7	25.3
0°-40°	2126.7	41.7
0°-60°	3837.4	75.2
0°-90°	5106.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5106.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1657	1657	1657	1657	1657	
5°	1652	1652	1646	1652	1652	157
15°	1588	1590	1592	1608	1608	448
25°	1462	1471	1484	1509	1513	674
35°	1285	1300	1330	1364	1374	804
45°	1064	1086	1139	1195	1216	820
55°	806	840	930	1018	1050	718
65°	517	577	712	817	853	511
75°	224	327	474	562	575	242
85°	43	94	115	128	130	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1656.6	1656.6	1656.6	1656.6	1656.6
2.5°	1658.8	1656.6	1648.1	1656.6	1656.6
5°	1652.4	1652.4	1646.0	1652.4	1652.4
7.5°	1641.7	1641.7	1637.4	1646.0	1646.0
10°	1628.9	1628.9	1626.7	1637.4	1637.4
12.5°	1609.6	1611.8	1609.6	1622.4	1622.4
15°	1588.2	1590.4	1592.5	1607.5	1607.5
17.5°	1560.5	1564.7	1569.0	1586.1	1588.2
20°	1534.8	1536.9	1545.5	1564.7	1566.9
22.5°	1500.6	1507.0	1517.7	1536.9	1543.4
25°	1462.1	1470.7	1483.5	1509.2	1513.4
27.5°	1425.8	1432.2	1449.3	1477.1	1485.6
30°	1380.9	1391.6	1413.0	1440.7	1451.4
32.5°	1338.1	1348.8	1374.5	1404.4	1413.0
35°	1284.7	1299.7	1329.6	1363.8	1374.5
37.5°	1233.4	1248.4	1284.7	1323.2	1336.0
40°	1180.0	1197.1	1235.5	1280.4	1297.5
42.5°	1122.2	1145.8	1188.5	1237.7	1256.9
45°	1064.5	1085.9	1139.3	1194.9	1216.3
47.5°	1002.5	1028.2	1085.9	1152.2	1177.8
50°	936.3	968.3	1034.6	1107.3	1135.1
52.5°	870.0	906.3	981.2	1062.4	1092.3
55°	805.9	840.1	929.9	1017.5	1049.6
57.5°	735.3	778.1	876.4	970.5	1002.5
60°	662.7	709.7	823.0	921.3	955.5
62.5°	590.0	643.4	771.7	870.0	906.3
65°	517.3	577.2	711.8	816.6	852.9
67.5°	446.8	513.0	656.2	761.0	797.3
70°	365.5	448.9	596.4	699.0	735.3
72.5°	290.7	386.9	538.7	634.9	666.9
75°	224.4	327.1	474.5	562.2	575.0
77.5°	164.6	267.2	408.3	438.2	440.3
80°	111.2	213.8	312.1	307.8	312.1
82.5°	72.7	160.3	196.7	220.2	222.3
85°	42.8	94.1	115.4	128.3	130.4
87.5°	21.4	32.1	40.6	42.8	47.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)