

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: P311741

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-S-CP250-W2A-U-2700K**

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: P311741
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-65HE-UNV-L82765-S-CP250-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (336) 2700K 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: 5347.0 lumens
Efficiency: N/A
Efficacy: 101.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

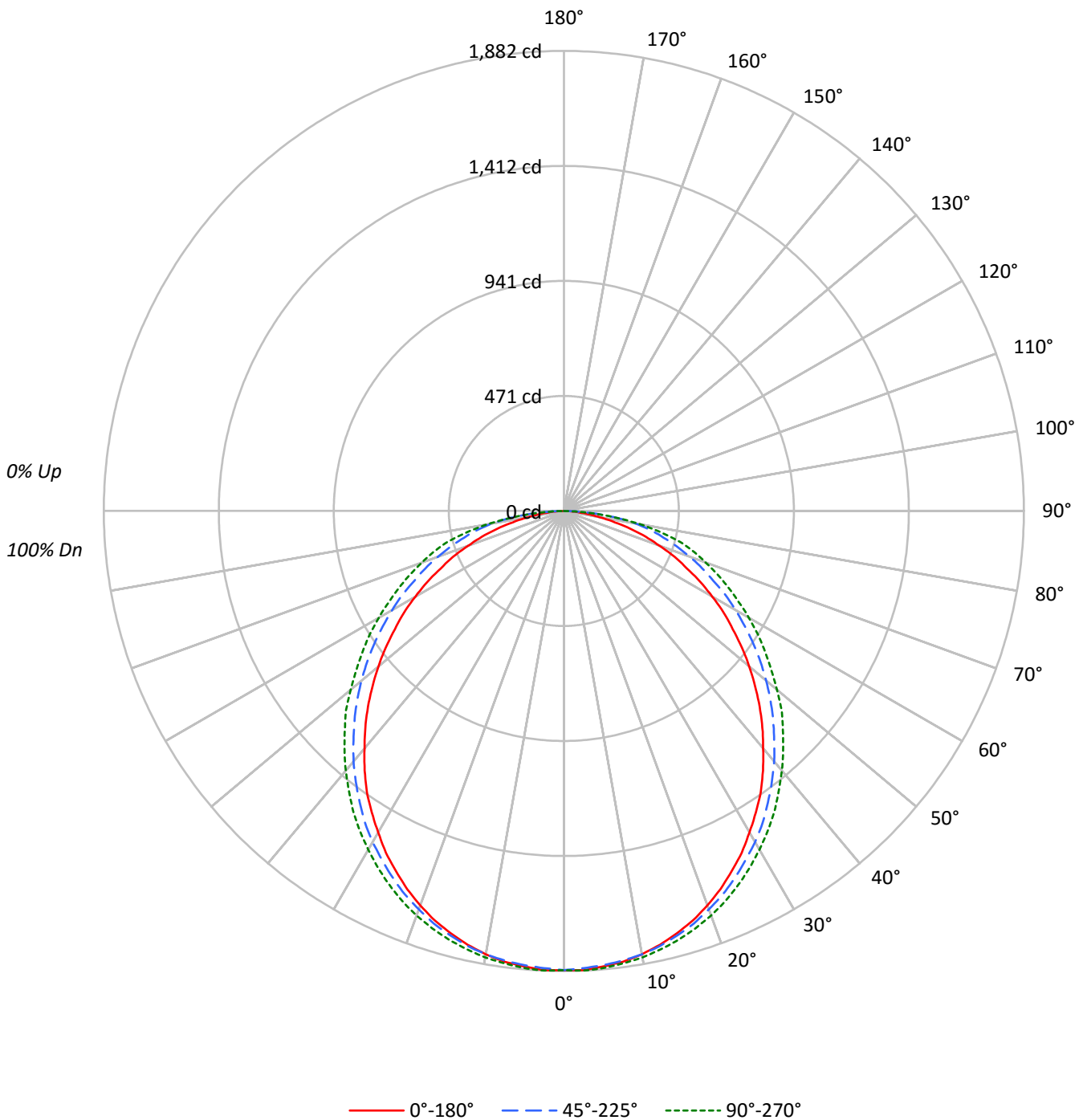
Input Watts (W): 52.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2527	2527	2527
5°	2526	2519	2535
10°	2515	2515	2534
15°	2491	2503	2529
20°	2459	2483	2522
25°	2413	2458	2506
30°	2359	2430	2486
35°	2307	2391	2466
40°	2228	2351	2437
45°	2156	2304	2411
50°	2073	2261	2382
55°	1980	2219	2359
60°	1887	2185	2354
65°	1768	2147	2368
70°	1637	2158	2432
75°	1465	2198	2569
80°	1185	2329	2514
85°	891	2046	1993



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	177.8	3.3
10°-20°	508.1	9.5
20°-30°	763.8	14.3
30°-40°	909.9	17.0
40°-50°	931.2	17.4
50°-60°	838.3	15.7
60°-70°	658.4	12.3
70°-80°	427.3	8.0
80°-90°	132.2	2.5
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°	1449.8	27.1
0°-40°	2359.7	44.1
0°-60°	4129.2	77.2
0°-90°	5347.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5347.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1878	1878	1878	1878	1878	
5°	1870	1873	1865	1875	1877	178
15°	1788	1794	1797	1812	1816	504
25°	1625	1639	1656	1683	1688	749
35°	1405	1422	1456	1491	1501	876
45°	1133	1160	1211	1257	1267	873
55°	844	882	946	995	1006	757
65°	555	598	674	730	744	553
75°	282	336	423	481	494	298
85°	58	107	132	129	129	70
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1878.4	1878.4	1878.4	1878.4	1878.4
2.5°	1880.1	1880.1	1871.6	1880.1	1881.8
5°	1869.9	1873.3	1864.8	1875.0	1876.7
7.5°	1859.8	1859.8	1854.7	1864.8	1866.5
10°	1841.1	1842.8	1841.1	1853.0	1854.7
12.5°	1817.3	1820.7	1822.4	1834.3	1836.0
15°	1788.4	1793.5	1796.9	1812.2	1815.6
17.5°	1756.2	1761.2	1769.7	1786.7	1790.1
20°	1717.1	1723.9	1734.1	1756.2	1761.2
22.5°	1674.6	1681.4	1698.4	1718.8	1727.3
25°	1625.4	1639.0	1655.9	1683.1	1688.2
27.5°	1576.1	1588.0	1610.1	1639.0	1645.8
30°	1518.4	1537.1	1564.2	1593.1	1599.9
32.5°	1462.3	1481.0	1513.3	1543.9	1552.3
35°	1404.6	1421.6	1455.5	1491.2	1501.4
37.5°	1338.3	1360.4	1397.8	1433.5	1443.6
40°	1268.7	1295.9	1338.3	1375.7	1387.6
42.5°	1202.5	1231.3	1273.8	1314.6	1328.2
45°	1132.8	1160.0	1211.0	1256.8	1267.0
47.5°	1061.5	1092.1	1146.4	1192.3	1209.3
50°	990.2	1022.4	1080.2	1127.7	1137.9
52.5°	918.8	952.8	1013.9	1064.9	1070.0
55°	844.1	881.5	946.0	995.3	1005.5
57.5°	776.2	808.4	878.1	929.0	940.9
60°	701.4	737.1	811.8	859.4	874.7
62.5°	630.1	667.5	745.6	793.2	806.7
65°	555.4	597.8	674.3	730.3	743.9
67.5°	490.8	531.6	613.1	667.5	681.1
70°	416.1	462.0	548.6	604.6	618.2
72.5°	351.6	399.1	485.7	540.1	560.5
75°	281.9	336.3	422.9	480.6	494.2
77.5°	214.0	276.8	365.2	409.3	409.3
80°	152.9	219.1	300.6	321.0	324.4
82.5°	100.2	164.7	222.5	220.8	220.8
85°	57.7	107.0	132.5	129.1	129.1
87.5°	22.1	44.2	47.6	47.6	45.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)