

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: P311745

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-S-CP250-W2A-U-4500K**

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: P311745
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-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (336) 4500K 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: 5920.0 lumens
Efficiency: N/A
Efficacy: 110.4 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

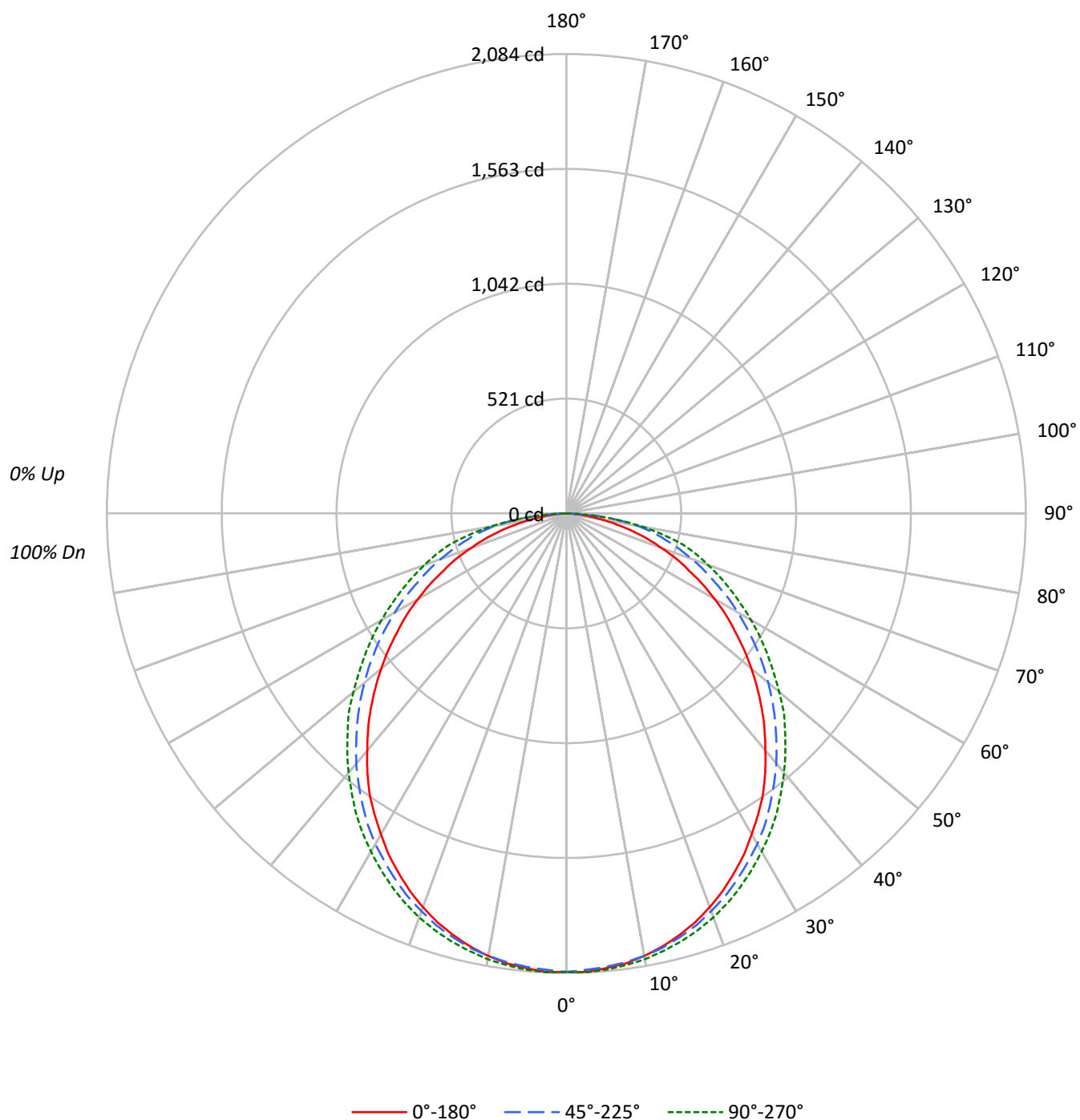
Input Watts (W): 53.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	99	95	106	101	97	93	97	93	90		93	90	88		83
2	98	90	83	77	96	88	81	76	84	79	74		81	76	72		69
3	89	79	70	64	87	77	69	63	74	67	62		71	66	61		58
4	82	70	61	54	80	68	60	54	66	59	53		63	57	52		49
5	75	62	53	46	73	61	53	46	59	51	46		57	50	45		42
6	70	56	47	40	68	55	47	40	53	46	40		52	45	40		37
7	64	51	42	36	63	50	42	36	48	41	35		47	40	35		33
8	60	46	38	32	58	46	37	32	44	37	32		43	36	31		29
9	56	43	34	29	55	42	34	29	41	34	28		40	33	28		26
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2798	2798	2798
5°	2796	2789	2806
10°	2785	2785	2805
15°	2758	2771	2800
20°	2722	2749	2792
25°	2672	2722	2775
30°	2612	2691	2752
35°	2554	2647	2730
40°	2467	2603	2698
45°	2387	2551	2669
50°	2295	2503	2637
55°	2192	2457	2611
60°	2090	2419	2606
65°	1958	2377	2622
70°	1812	2389	2693
75°	1622	2434	2845
80°	1311	2579	2783
85°	986	2265	2206



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	196.9	3.3
10°-20°	562.6	9.5
20°-30°	845.7	14.3
30°-40°	1007.4	17.0
40°-50°	1031.0	17.4
50°-60°	928.2	15.7
60°-70°	728.9	12.3
70°-80°	473.1	8.0
80°-90°	146.3	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°	1605.2	27.1
0°-40°	2612.5	44.1
0°-60°	4571.7	77.2
0°-90°	5920.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5920.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2080	2080	2080	2080	2080	
5°	2070	2074	2065	2076	2078	197
15°	1980	1986	1990	2006	2010	558
25°	1800	1815	1833	1864	1869	829
35°	1555	1574	1612	1651	1662	970
45°	1254	1284	1341	1392	1403	967
55°	935	976	1047	1102	1113	838
65°	615	662	746	809	824	612
75°	312	372	468	532	547	330
85°	64	118	147	143	143	77
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2079.7	2079.7	2079.7	2079.7	2079.7
2.5°	2081.6	2081.6	2072.2	2081.6	2083.5
5°	2070.3	2074.1	2064.7	2076.0	2077.9
7.5°	2059.1	2059.1	2053.4	2064.7	2066.6
10°	2038.4	2040.2	2038.4	2051.5	2053.4
12.5°	2012.0	2015.8	2017.7	2030.8	2032.7
15°	1980.1	1985.7	1989.5	2006.4	2010.2
17.5°	1944.3	1950.0	1959.4	1978.2	1982.0
20°	1901.1	1908.6	1919.9	1944.3	1950.0
22.5°	1854.1	1861.6	1880.4	1903.0	1912.4
25°	1799.6	1814.6	1833.4	1863.5	1869.1
27.5°	1745.0	1758.2	1782.6	1814.6	1822.1
30°	1681.1	1701.8	1731.9	1763.8	1771.3
32.5°	1619.0	1639.7	1675.4	1709.3	1718.7
35°	1555.1	1573.9	1611.5	1651.0	1662.3
37.5°	1481.8	1506.2	1547.6	1587.1	1598.3
40°	1404.7	1434.8	1481.8	1523.1	1536.3
42.5°	1331.3	1363.3	1410.3	1455.4	1470.5
45°	1254.2	1284.3	1340.7	1391.5	1402.8
47.5°	1175.3	1209.1	1269.3	1320.0	1338.9
50°	1096.3	1132.0	1195.9	1248.6	1259.9
52.5°	1017.3	1054.9	1122.6	1179.0	1184.7
55°	934.6	975.9	1047.4	1101.9	1113.2
57.5°	859.3	895.1	972.2	1028.6	1041.7
60°	776.6	816.1	898.8	951.5	968.4
62.5°	697.6	739.0	825.5	878.2	893.2
65°	614.9	661.9	746.5	808.6	823.6
67.5°	543.4	588.6	678.8	739.0	754.0
70°	460.7	511.5	607.4	669.4	684.5
72.5°	389.2	441.9	537.8	598.0	620.5
75°	312.1	372.3	468.2	532.2	547.2
77.5°	236.9	306.5	404.3	453.2	453.2
80°	169.2	242.6	332.8	355.4	359.2
82.5°	110.9	182.4	246.3	244.5	244.5
85°	63.9	118.5	146.7	142.9	142.9
87.5°	24.4	48.9	52.7	52.7	50.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)