

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: P311744

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-S-CP250-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: P311744
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-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB 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: 5817.0 lumens
Efficiency: N/A
Efficacy: 109.3 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

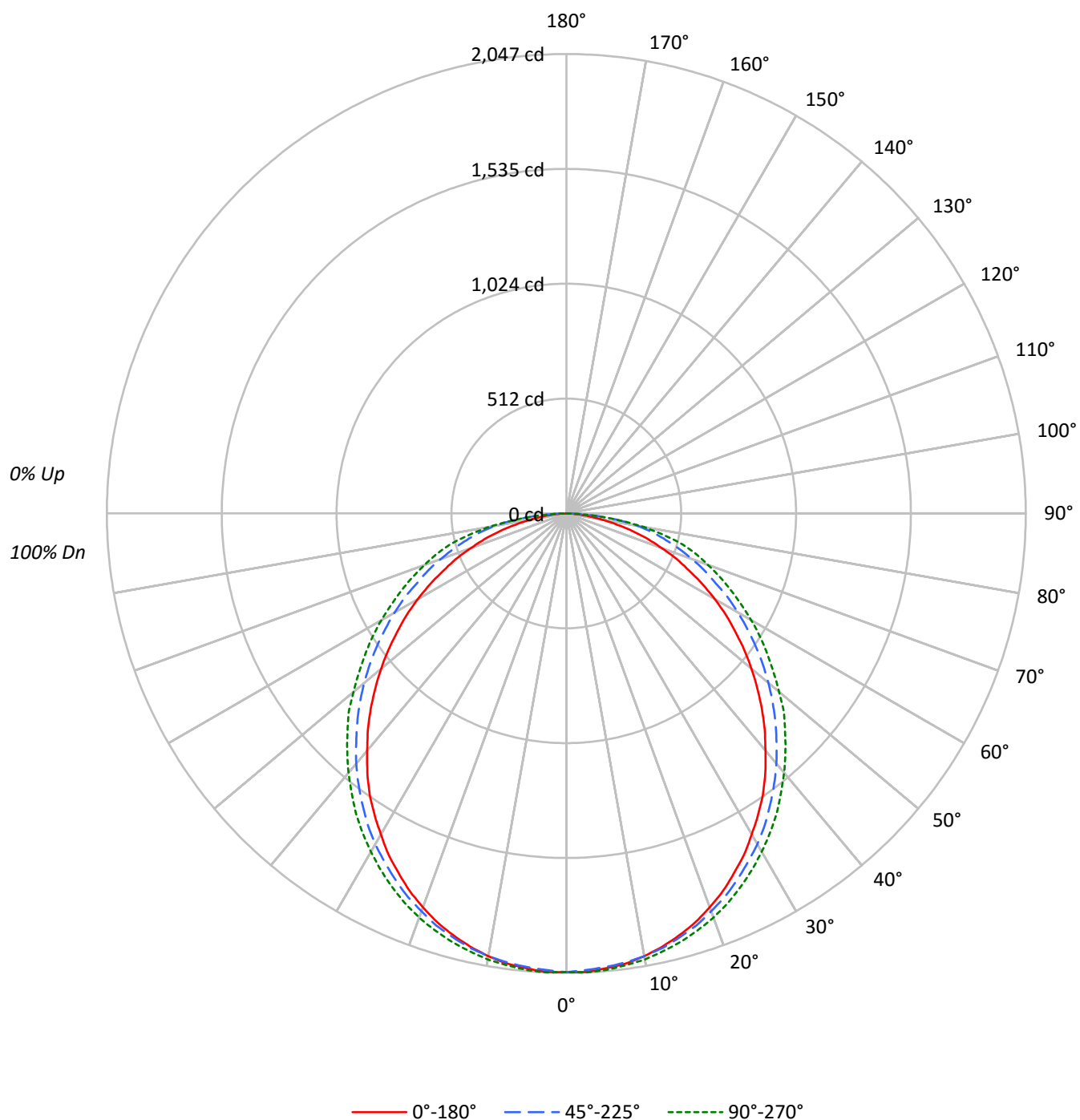
Input Watts (W): 53.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2750	2750	2750
5°	2748	2740	2758
10°	2736	2736	2757
15°	2710	2723	2751
20°	2675	2701	2744
25°	2625	2674	2727
30°	2566	2644	2704
35°	2510	2601	2683
40°	2424	2557	2651
45°	2345	2507	2623
50°	2255	2460	2591
55°	2154	2414	2566
60°	2053	2377	2561
65°	1924	2335	2577
70°	1781	2348	2646
75°	1594	2392	2795
80°	1289	2534	2734
85°	969	2225	2167



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.5	3.3
10°-20°	552.8	9.5
20°-30°	831.0	14.3
30°-40°	989.8	17.0
40°-50°	1013.0	17.4
50°-60°	912.0	15.7
60°-70°	716.2	12.3
70°-80°	464.9	8.0
80°-90°	143.7	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°	1577.2	27.1
0°-40°	2567.1	44.1
0°-60°	4492.2	77.2
0°-90°	5817.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5817.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2044	2044	2044	2044	2044	
5°	2034	2038	2029	2040	2042	193
15°	1946	1951	1955	1972	1975	549
25°	1768	1783	1802	1831	1837	815
35°	1528	1546	1584	1622	1633	953
45°	1232	1262	1317	1367	1378	950
55°	918	959	1029	1083	1094	823
65°	604	650	734	794	809	601
75°	307	366	460	523	538	325
85°	63	116	144	140	140	76
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2043.6	2043.6	2043.6	2043.6	2043.6
2.5°	2045.4	2045.4	2036.2	2045.4	2047.2
5°	2034.3	2038.0	2028.8	2039.9	2041.7
7.5°	2023.2	2023.2	2017.7	2028.8	2030.6
10°	2002.9	2004.7	2002.9	2015.8	2017.7
12.5°	1977.0	1980.7	1982.6	1995.5	1997.4
15°	1945.6	1951.2	1954.9	1971.5	1975.2
17.5°	1910.5	1916.1	1925.3	1943.8	1947.5
20°	1868.0	1875.4	1886.5	1910.5	1916.1
22.5°	1821.8	1829.2	1847.7	1869.9	1879.1
25°	1768.2	1783.0	1801.5	1831.1	1836.6
27.5°	1714.7	1727.6	1751.6	1783.0	1790.4
30°	1651.8	1672.2	1701.7	1733.1	1740.5
32.5°	1590.9	1611.2	1646.3	1679.6	1688.8
35°	1528.0	1546.5	1583.5	1622.3	1633.4
37.5°	1456.0	1480.0	1520.7	1559.5	1570.5
40°	1380.2	1409.8	1456.0	1496.6	1509.6
42.5°	1308.2	1339.6	1385.8	1430.1	1444.9
45°	1232.4	1262.0	1317.4	1367.3	1378.4
47.5°	1154.8	1188.1	1247.2	1297.1	1315.6
50°	1077.2	1112.3	1175.1	1226.9	1238.0
52.5°	999.6	1036.6	1103.1	1158.5	1164.0
55°	918.3	959.0	1029.2	1082.7	1093.8
57.5°	844.4	879.5	955.3	1010.7	1023.6
60°	763.1	801.9	883.2	934.9	951.6
62.5°	685.5	726.1	811.1	862.9	877.7
65°	604.2	650.4	733.5	794.5	809.3
67.5°	534.0	578.3	667.0	726.1	740.9
70°	452.7	502.6	596.8	657.8	672.6
72.5°	382.5	434.2	528.4	587.6	609.7
75°	306.7	365.8	460.1	522.9	537.7
77.5°	232.8	301.2	397.3	445.3	445.3
80°	166.3	238.4	327.0	349.2	352.9
82.5°	109.0	179.2	242.0	240.2	240.2
85°	62.8	116.4	144.1	140.4	140.4
87.5°	24.0	48.0	51.7	51.7	49.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)