

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: P311735

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-S-CP187-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: P311735
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-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" 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: 5864.0 lumens
Efficiency: N/A
Efficacy: 110.2 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

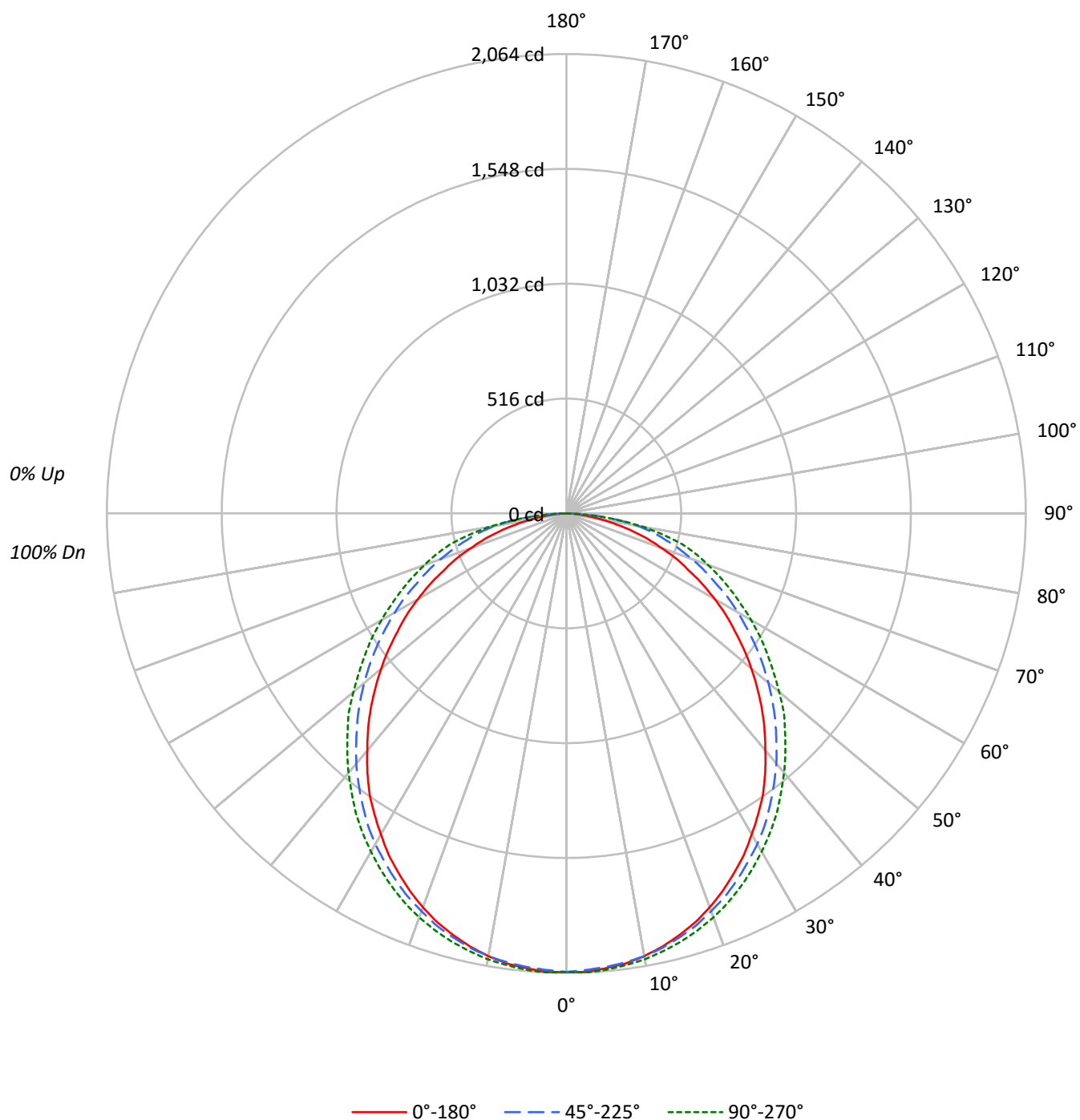
Input Watts (W): 53.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2772	2772	2772
5°	2770	2762	2780
10°	2759	2759	2779
15°	2732	2745	2774
20°	2696	2723	2766
25°	2646	2696	2749
30°	2587	2665	2726
35°	2530	2622	2705
40°	2444	2578	2673
45°	2364	2527	2644
50°	2273	2480	2612
55°	2171	2434	2587
60°	2070	2396	2581
65°	1939	2354	2597
70°	1795	2367	2667
75°	1607	2411	2818
80°	1299	2555	2757
85°	977	2243	2186



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	195.0	3.3
10°-20°	557.3	9.5
20°-30°	837.7	14.3
30°-40°	997.8	17.0
40°-50°	1021.2	17.4
50°-60°	919.4	15.7
60°-70°	722.0	12.3
70°-80°	468.6	8.0
80°-90°	144.9	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°	1590.0	27.1
0°-40°	2587.8	44.1
0°-60°	4528.5	77.2
0°-90°	5864.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5864.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2060	2060	2060	2060	2060	
5°	2051	2054	2045	2056	2058	195
15°	1961	1967	1971	1987	1991	553
25°	1782	1797	1816	1846	1851	821
35°	1540	1559	1596	1635	1647	961
45°	1242	1272	1328	1378	1390	958
55°	926	967	1038	1092	1103	830
65°	609	656	740	801	816	606
75°	309	369	464	527	542	327
85°	63	117	145	142	142	76
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2060.1	2060.1	2060.1	2060.1	2060.1
2.5°	2061.9	2061.9	2052.6	2061.9	2063.8
5°	2050.7	2054.5	2045.2	2056.3	2058.2
7.5°	2039.6	2039.6	2034.0	2045.2	2047.0
10°	2019.1	2020.9	2019.1	2032.1	2034.0
12.5°	1993.0	1996.7	1998.6	2011.6	2013.5
15°	1961.3	1966.9	1970.7	1987.4	1991.1
17.5°	1926.0	1931.5	1940.9	1959.5	1963.2
20°	1883.1	1890.6	1901.7	1926.0	1931.5
22.5°	1836.5	1844.0	1862.6	1885.0	1894.3
25°	1782.5	1797.4	1816.1	1845.9	1851.4
27.5°	1728.5	1741.6	1765.8	1797.4	1804.9
30°	1665.2	1685.7	1715.5	1747.1	1754.6
32.5°	1603.7	1624.2	1659.6	1693.1	1702.4
35°	1540.4	1559.0	1596.3	1635.4	1646.6
37.5°	1467.7	1492.0	1532.9	1572.1	1583.2
40°	1391.4	1421.2	1467.7	1508.7	1521.8
42.5°	1318.7	1350.4	1397.0	1441.7	1456.6
45°	1242.4	1272.2	1328.1	1378.3	1389.5
47.5°	1164.1	1197.7	1257.3	1307.6	1326.2
50°	1085.9	1121.3	1184.6	1236.8	1248.0
52.5°	1007.7	1044.9	1112.0	1167.9	1173.5
55°	925.7	966.7	1037.5	1091.5	1102.7
57.5°	851.2	886.6	963.0	1018.9	1031.9
60°	769.3	808.4	890.3	942.5	959.3
62.5°	691.0	732.0	817.7	869.8	884.7
65°	609.1	655.6	739.5	800.9	815.8
67.5°	538.3	583.0	672.4	732.0	746.9
70°	456.3	506.6	601.6	663.1	678.0
72.5°	385.6	437.7	532.7	592.3	614.7
75°	309.2	368.8	463.8	527.1	542.0
77.5°	234.7	303.6	400.5	448.9	448.9
80°	167.6	240.3	329.7	352.0	355.8
82.5°	109.9	180.7	244.0	242.1	242.1
85°	63.3	117.3	145.3	141.6	141.6
87.5°	24.2	48.4	52.2	52.2	50.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)