

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: P311727

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-S-CP125-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: P311727
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-CP125-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" 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: 6232.0 lumens
Efficiency: N/A
Efficacy: 116.3 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

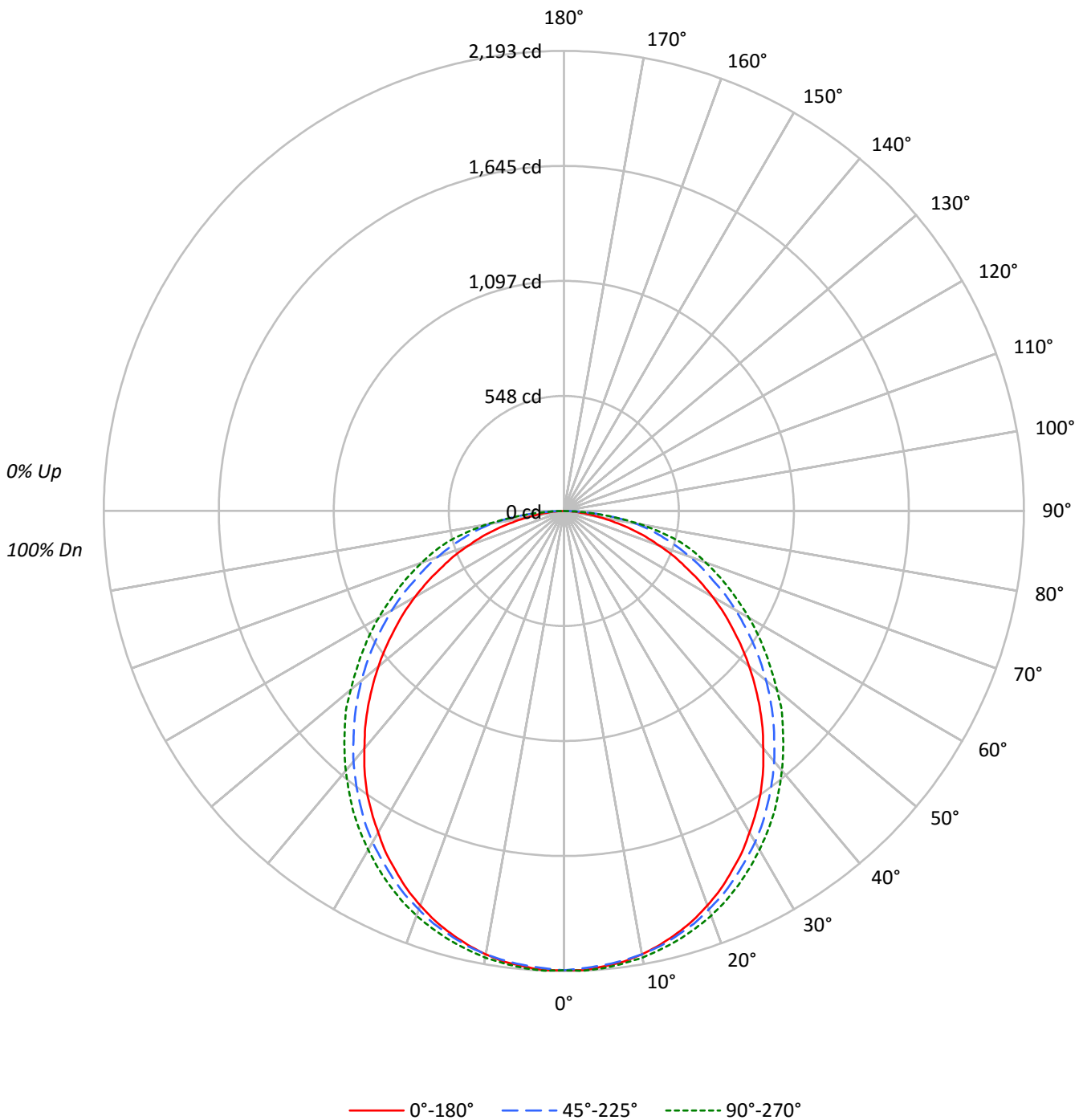
Input Watts (W): 53.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2946	2946	2946
5°	2944	2936	2954
10°	2932	2932	2953
15°	2903	2917	2948
20°	2866	2894	2939
25°	2812	2865	2921
30°	2749	2832	2897
35°	2689	2786	2874
40°	2597	2740	2841
45°	2512	2686	2810
50°	2416	2635	2776
55°	2308	2586	2749
60°	2200	2546	2743
65°	2061	2502	2760
70°	1908	2515	2834
75°	1708	2562	2994
80°	1381	2715	2930
85°	1039	2384	2322



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	207.3	3.3
10°-20°	592.2	9.5
20°-30°	890.3	14.3
30°-40°	1060.4	17.0
40°-50°	1085.3	17.4
50°-60°	977.1	15.7
60°-70°	767.3	12.3
70°-80°	498.0	8.0
80°-90°	154.0	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°	1689.8	27.1
0°-40°	2750.2	44.1
0°-60°	4812.6	77.2
0°-90°	6232.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6232.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2189	2189	2189	2189	2189	
5°	2179	2183	2174	2185	2187	207
15°	2084	2090	2094	2112	2116	588
25°	1894	1910	1930	1962	1968	873
35°	1637	1657	1696	1738	1750	1021
45°	1320	1352	1411	1465	1477	1018
55°	984	1027	1103	1160	1172	882
65°	647	697	786	851	867	644
75°	329	392	493	560	576	348
85°	67	125	154	150	150	81
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2189.3	2189.3	2189.3	2189.3	2189.3
2.5°	2191.3	2191.3	2181.4	2191.3	2193.3
5°	2179.4	2183.4	2173.5	2185.4	2187.4
7.5°	2167.6	2167.6	2161.6	2173.5	2175.5
10°	2145.8	2147.8	2145.8	2159.6	2161.6
12.5°	2118.1	2122.0	2124.0	2137.9	2139.9
15°	2084.4	2090.4	2094.3	2112.1	2116.1
17.5°	2046.8	2052.8	2062.7	2082.4	2086.4
20°	2001.3	2009.2	2021.1	2046.8	2052.8
22.5°	1951.8	1959.7	1979.5	2003.3	2013.2
25°	1894.4	1910.2	1930.0	1961.7	1967.6
27.5°	1837.0	1850.8	1876.6	1910.2	1918.1
30°	1769.7	1791.5	1823.1	1856.8	1864.7
32.5°	1704.4	1726.1	1763.7	1799.4	1809.3
35°	1637.1	1656.9	1696.4	1738.0	1749.9
37.5°	1559.9	1585.6	1629.1	1670.7	1682.6
40°	1478.7	1510.4	1559.9	1603.4	1617.3
42.5°	1401.5	1435.1	1484.6	1532.1	1548.0
45°	1320.3	1352.0	1411.4	1464.8	1476.7
47.5°	1237.2	1272.8	1336.2	1389.6	1409.4
50°	1154.1	1191.7	1259.0	1314.4	1326.3
52.5°	1070.9	1110.5	1181.8	1241.2	1247.1
55°	983.8	1027.4	1102.6	1160.0	1171.9
57.5°	904.6	942.2	1023.4	1082.8	1096.7
60°	817.5	859.1	946.2	1001.6	1019.4
62.5°	734.4	777.9	869.0	924.4	940.3
65°	647.3	696.8	785.9	851.2	867.0
67.5°	572.1	619.6	714.6	777.9	793.8
70°	485.0	538.4	639.4	704.7	720.5
72.5°	409.8	465.2	566.1	629.5	653.2
75°	328.6	391.9	492.9	560.2	576.0
77.5°	249.4	322.7	425.6	477.1	477.1
80°	178.2	255.4	350.4	374.1	378.1
82.5°	116.8	192.0	259.3	257.3	257.3
85°	67.3	124.7	154.4	150.4	150.4
87.5°	25.7	51.5	55.4	55.4	53.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)