

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: P311707

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-S-CA08-W2A-U-3500K**

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: P311707
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-CA08-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 3500K 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: 6133.0 lumens
Efficiency: N/A
Efficacy: 116.2 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

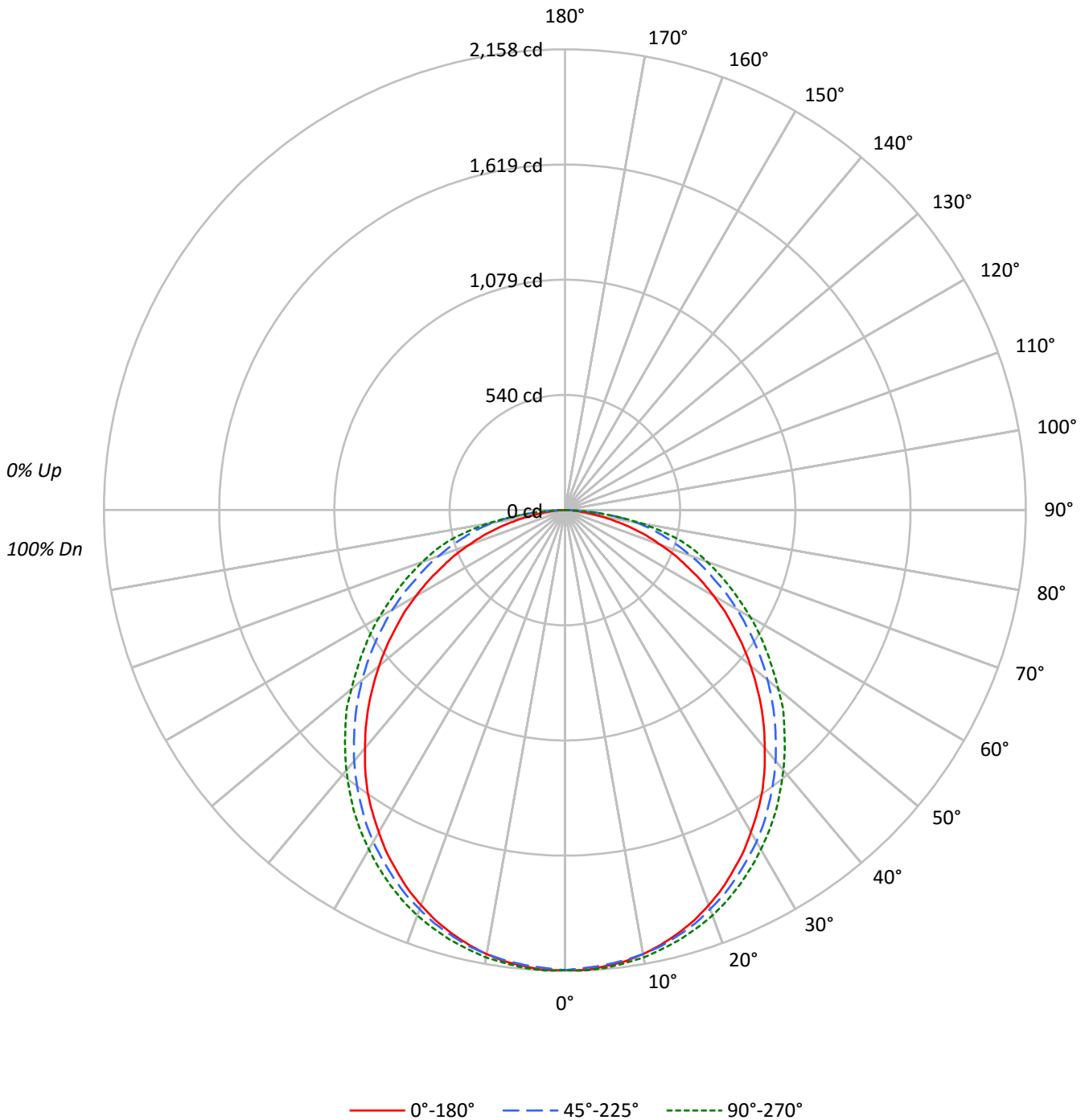
Input Watts (W): 52.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2899	2899	2899
5°	2897	2889	2907
10°	2885	2885	2906
15°	2857	2871	2901
20°	2820	2848	2892
25°	2768	2820	2875
30°	2706	2788	2851
35°	2646	2742	2829
40°	2556	2696	2796
45°	2473	2643	2765
50°	2377	2593	2732
55°	2271	2545	2705
60°	2165	2506	2700
65°	2028	2462	2717
70°	1878	2475	2790
75°	1681	2522	2947
80°	1358	2672	2883
85°	1022	2345	2286



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	204.0	3.3
10°-20°	582.8	9.5
20°-30°	876.1	14.3
30°-40°	1043.6	17.0
40°-50°	1068.1	17.4
50°-60°	961.6	15.7
60°-70°	755.2	12.3
70°-80°	490.1	8.0
80°-90°	151.6	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°	1662.9	27.1
0°-40°	2706.5	44.1
0°-60°	4736.2	77.2
0°-90°	6133.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6133.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2155	2155	2155	2155	2155	
5°	2145	2149	2139	2151	2153	204
15°	2051	2057	2061	2079	2082	578
25°	1864	1880	1899	1930	1936	859
35°	1611	1630	1670	1710	1722	1005
45°	1299	1330	1389	1442	1453	1002
55°	968	1011	1085	1142	1153	868
65°	637	686	773	838	853	634
75°	323	386	485	551	567	342
85°	66	123	152	148	148	80
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2154.6	2154.6	2154.6	2154.6	2154.6
2.5°	2156.5	2156.5	2146.8	2156.5	2158.5
5°	2144.8	2148.7	2139.0	2150.7	2152.6
7.5°	2133.1	2133.1	2127.3	2139.0	2140.9
10°	2111.7	2113.7	2111.7	2125.3	2127.3
12.5°	2084.4	2088.3	2090.3	2103.9	2105.9
15°	2051.3	2057.2	2061.1	2078.6	2082.5
17.5°	2014.3	2020.1	2029.9	2049.4	2053.3
20°	1969.5	1977.3	1989.0	2014.3	2020.1
22.5°	1920.8	1928.6	1948.1	1971.4	1981.2
25°	1864.3	1879.9	1899.4	1930.5	1936.4
27.5°	1807.8	1821.4	1846.8	1879.9	1887.7
30°	1741.6	1763.0	1794.2	1827.3	1835.1
32.5°	1677.3	1698.7	1735.7	1770.8	1780.5
35°	1611.1	1630.5	1669.5	1710.4	1722.1
37.5°	1535.1	1560.4	1603.3	1644.2	1655.9
40°	1455.2	1486.4	1535.1	1577.9	1591.6
42.5°	1379.2	1412.3	1461.1	1507.8	1523.4
45°	1299.4	1330.5	1389.0	1441.6	1453.3
47.5°	1217.5	1252.6	1314.9	1367.5	1387.0
50°	1135.7	1172.7	1239.0	1293.5	1305.2
52.5°	1053.9	1092.9	1163.0	1221.4	1227.3
55°	968.2	1011.0	1085.1	1141.6	1153.3
57.5°	890.3	927.3	1007.2	1065.6	1079.2
60°	804.6	845.5	931.2	985.7	1003.3
62.5°	722.7	765.6	855.2	909.7	925.3
65°	637.0	685.7	773.4	837.7	853.3
67.5°	563.0	609.7	703.3	765.6	781.2
70°	477.3	529.9	629.2	693.5	709.1
72.5°	403.3	457.8	557.1	619.5	642.9
75°	323.4	385.7	485.1	551.3	566.9
77.5°	245.5	317.5	418.8	469.5	469.5
80°	175.3	251.3	344.8	368.2	372.1
82.5°	114.9	189.0	255.2	253.2	253.2
85°	66.2	122.7	151.9	148.1	148.1
87.5°	25.3	50.6	54.5	54.5	52.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)