

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: P311038

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-CA08-W2A-U-6500K**

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: P311038
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
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-CA08-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 6500K 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: 6246.0 lumens
Efficiency: N/A
Efficacy: 113.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

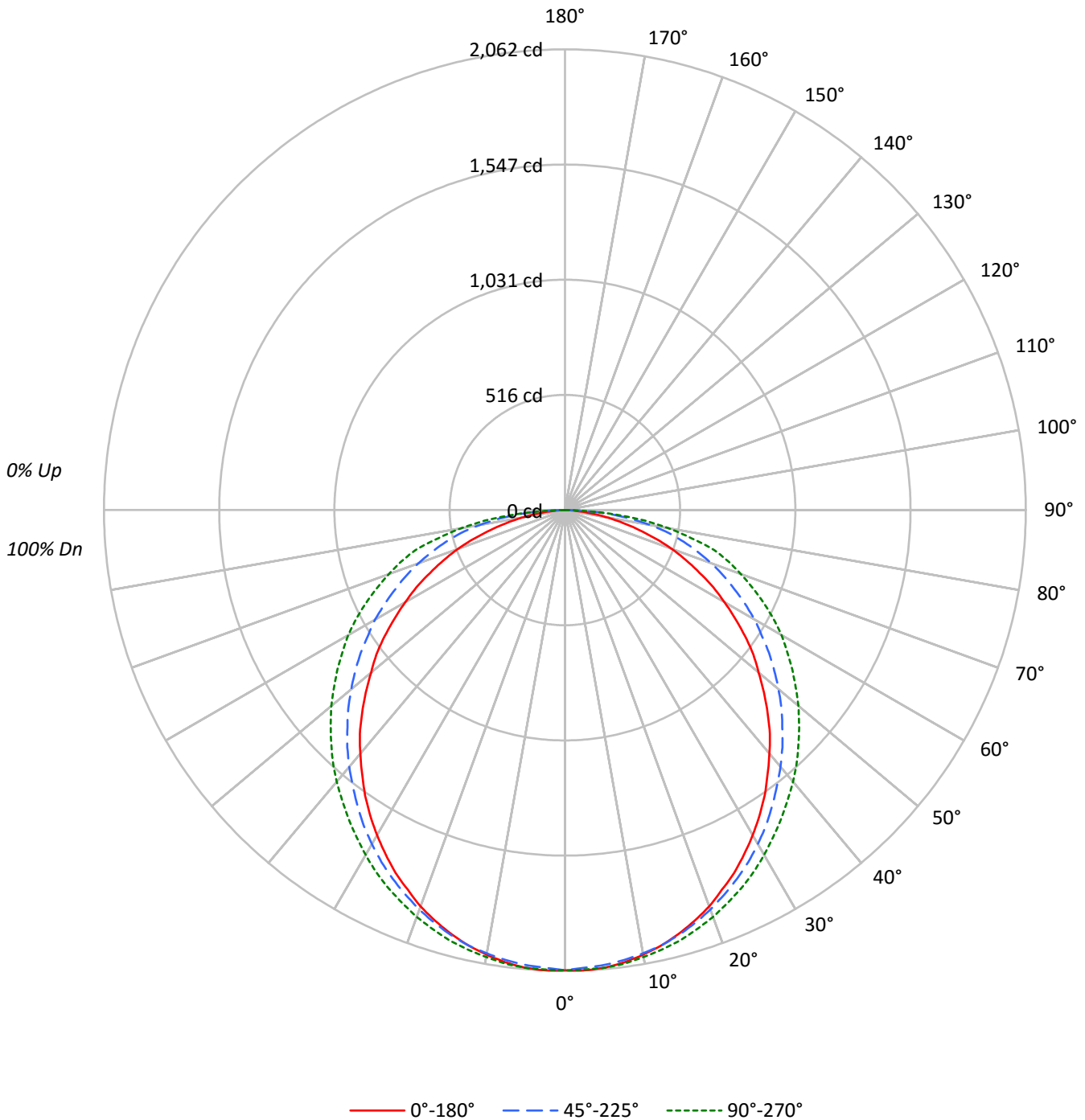
Input Watts (W): 54.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2772	2772	2772
5°	2776	2760	2776
10°	2760	2752	2775
15°	2737	2742	2777
20°	2703	2724	2774
25°	2661	2704	2772
30°	2611	2682	2769
35°	2560	2655	2771
40°	2501	2635	2788
45°	2441	2618	2812
50°	2368	2611	2854
55°	2309	2615	2912
60°	2220	2638	3011
65°	2118	2665	3121
70°	2006	2747	3294
75°	1788	2865	3598
80°	1526	3035	3677
85°	1088	3007	3520



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	194.9	3.1
10°-20°	557.4	8.9
20°-30°	841.9	13.5
30°-40°	1014.7	16.2
40°-50°	1065.3	17.1
50°-60°	996.6	16.0
60°-70°	823.0	13.2
70°-80°	560.8	9.0
80°-90°	191.3	3.1
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°	1594.3	25.5
0°-40°	2609.0	41.8
0°-60°	4670.9	74.8
0°-90°	6246.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6246.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2060	2060	2060	2060	2060	
5°	2056	2054	2043	2056	2056	195
15°	1965	1967	1969	1989	1994	554
25°	1792	1801	1822	1857	1867	825
35°	1558	1575	1616	1670	1687	974
45°	1283	1310	1376	1451	1478	989
55°	984	1024	1115	1206	1241	879
65°	665	721	837	943	980	660
75°	344	423	551	655	692	367
85°	70	139	195	220	228	88
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2059.9	2059.9	2059.9	2059.9	2059.9
2.5°	2061.9	2059.9	2049.5	2059.9	2057.8
5°	2055.7	2053.7	2043.3	2055.7	2055.7
7.5°	2041.2	2041.2	2030.9	2045.4	2047.4
10°	2020.5	2020.5	2014.3	2030.9	2030.9
12.5°	1995.6	1995.6	1995.6	2012.2	2014.3
15°	1964.6	1966.6	1968.7	1989.4	1993.6
17.5°	1927.2	1931.4	1937.6	1962.5	1966.6
20°	1887.9	1892.0	1902.4	1931.4	1937.6
22.5°	1838.1	1848.5	1863.0	1896.2	1902.4
25°	1792.5	1800.8	1821.6	1856.8	1867.2
27.5°	1736.6	1749.0	1776.0	1813.3	1827.8
30°	1680.6	1693.1	1726.2	1769.8	1782.2
32.5°	1620.5	1639.2	1674.4	1720.0	1734.5
35°	1558.4	1575.0	1616.4	1670.3	1686.9
37.5°	1490.0	1512.8	1558.4	1616.4	1637.1
40°	1423.7	1448.5	1500.4	1562.5	1587.4
42.5°	1357.4	1382.2	1440.3	1510.7	1535.6
45°	1282.8	1309.7	1376.0	1450.6	1477.6
47.5°	1208.2	1241.3	1313.8	1392.6	1421.6
50°	1131.5	1168.8	1247.5	1330.4	1363.6
52.5°	1063.1	1098.3	1181.2	1270.3	1301.4
55°	984.3	1023.7	1114.9	1206.1	1241.3
57.5°	903.5	947.0	1044.4	1143.9	1179.1
60°	824.8	872.4	980.2	1079.7	1119.0
62.5°	748.1	795.8	907.7	1011.3	1050.7
65°	665.2	721.2	837.2	942.9	980.2
67.5°	586.5	646.6	768.8	872.4	909.7
70°	509.8	567.8	698.4	799.9	837.2
72.5°	426.9	493.2	623.8	729.5	768.8
75°	344.0	422.8	551.2	654.9	692.2
77.5°	267.3	348.1	476.6	561.6	580.2
80°	196.9	279.8	391.7	451.8	474.6
82.5°	126.4	209.3	298.4	341.9	360.6
85°	70.5	138.8	194.8	219.7	228.0
87.5°	29.0	60.1	78.7	89.1	89.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)