

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: P311749

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-S-CP250-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: P311749
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-6500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB 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: 6091.0 lumens
Efficiency: N/A
Efficacy: 110.9 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

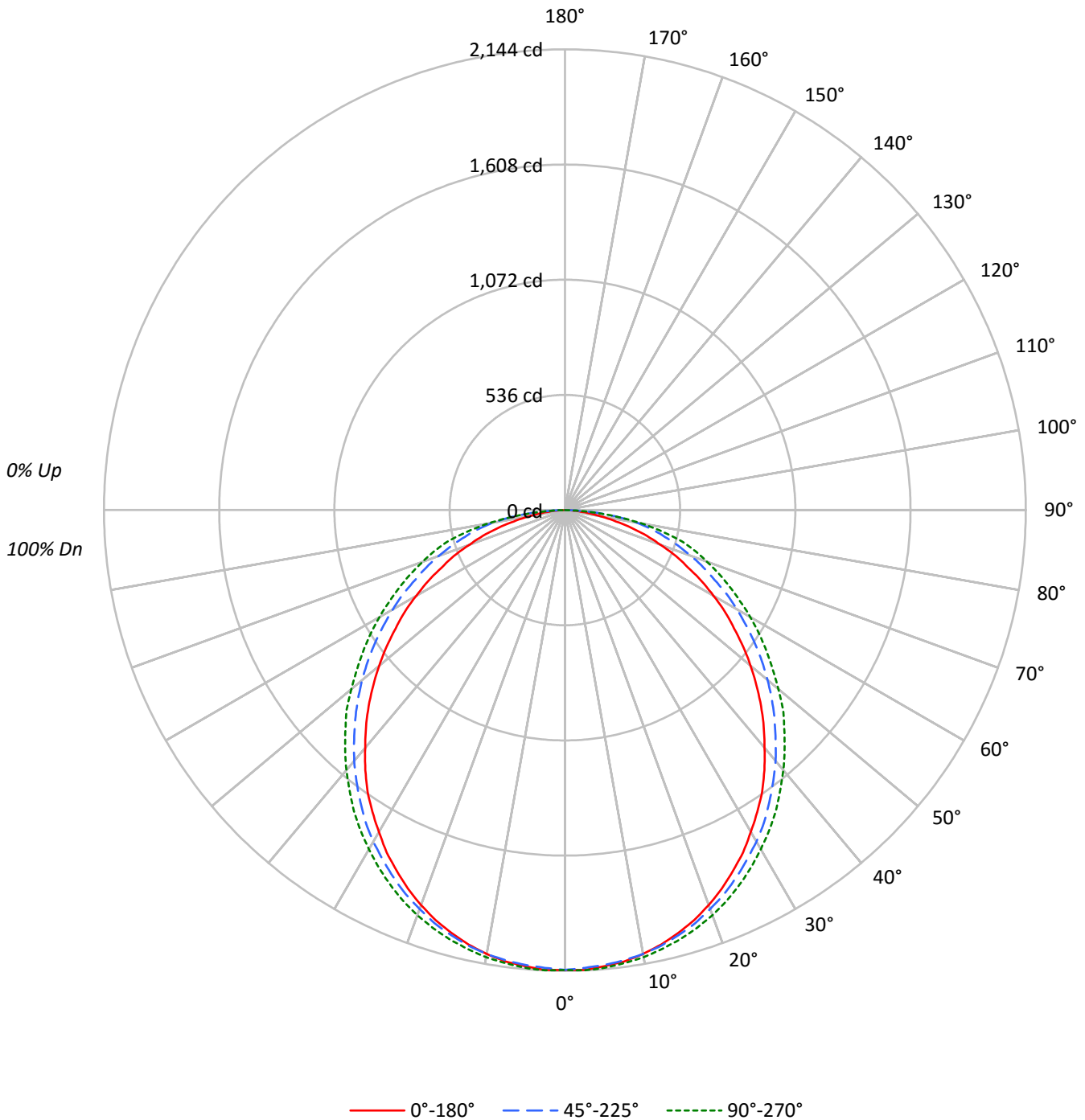
Input Watts (W): 54.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	2879	2879	2879
5°	2877	2869	2888
10°	2865	2865	2886
15°	2838	2851	2881
20°	2801	2828	2873
25°	2749	2801	2855
30°	2687	2768	2832
35°	2628	2723	2809
40°	2538	2678	2776
45°	2456	2625	2746
50°	2361	2576	2713
55°	2256	2528	2687
60°	2150	2489	2681
65°	2014	2445	2698
70°	1865	2458	2770
75°	1670	2504	2927
80°	1349	2653	2863
85°	1016	2330	2269



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	202.6	3.3
10°-20°	578.8	9.5
20°-30°	870.1	14.3
30°-40°	1036.5	17.0
40°-50°	1060.8	17.4
50°-60°	955.0	15.7
60°-70°	750.0	12.3
70°-80°	486.8	8.0
80°-90°	150.5	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°	1651.5	27.1
0°-40°	2688.0	44.1
0°-60°	4703.7	77.2
0°-90°	6091.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6091.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2140	2140	2140	2140	2140	
5°	2130	2134	2124	2136	2138	202
15°	2037	2043	2047	2064	2068	574
25°	1852	1867	1886	1917	1923	853
35°	1600	1619	1658	1699	1710	998
45°	1290	1321	1380	1432	1443	995
55°	962	1004	1078	1134	1145	862
65°	633	681	768	832	847	630
75°	321	383	482	548	563	340
85°	66	122	151	147	147	79
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2139.8	2139.8	2139.8	2139.8	2139.8
2.5°	2141.7	2141.7	2132.1	2141.7	2143.7
5°	2130.1	2134.0	2124.3	2135.9	2137.9
7.5°	2118.5	2118.5	2112.7	2124.3	2126.3
10°	2097.2	2099.2	2097.2	2110.8	2112.7
12.5°	2070.2	2074.0	2076.0	2089.5	2091.4
15°	2037.3	2043.1	2046.9	2064.4	2068.2
17.5°	2000.5	2006.3	2016.0	2035.3	2039.2
20°	1956.0	1963.7	1975.4	2000.5	2006.3
22.5°	1907.6	1915.4	1934.7	1957.9	1967.6
25°	1851.5	1867.0	1886.4	1917.3	1923.1
27.5°	1795.4	1809.0	1834.1	1867.0	1874.8
30°	1729.6	1750.9	1781.9	1814.8	1822.5
32.5°	1665.8	1687.1	1723.8	1758.7	1768.3
35°	1600.0	1619.4	1658.1	1698.7	1710.3
37.5°	1524.6	1549.7	1592.3	1632.9	1644.5
40°	1445.2	1476.2	1524.6	1567.1	1580.7
42.5°	1369.8	1402.7	1451.0	1497.5	1513.0
45°	1290.5	1321.4	1379.5	1431.7	1443.3
47.5°	1209.2	1244.0	1305.9	1358.2	1377.5
50°	1127.9	1164.7	1230.5	1284.7	1296.3
52.5°	1046.7	1085.4	1155.0	1213.1	1218.9
55°	961.6	1004.1	1077.6	1133.8	1145.4
57.5°	884.2	920.9	1000.3	1058.3	1071.8
60°	799.0	839.7	924.8	979.0	996.4
62.5°	717.8	760.3	849.3	903.5	919.0
65°	632.7	681.0	768.1	831.9	847.4
67.5°	559.1	605.6	698.4	760.3	775.8
70°	474.0	526.2	624.9	688.8	704.2
72.5°	400.5	454.7	553.3	615.2	638.5
75°	321.2	383.1	481.7	547.5	563.0
77.5°	243.8	315.4	416.0	466.3	466.3
80°	174.1	249.6	342.4	365.7	369.5
82.5°	114.1	187.7	253.4	251.5	251.5
85°	65.8	121.9	150.9	147.0	147.0
87.5°	25.2	50.3	54.2	54.2	52.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)