

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: P311677

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-S-CA125-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: P311677
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: 24FCZ2-60HE-UNV-L82765-S-CA125-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" 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: 6035.0 lumens
Efficiency: N/A
Efficacy: 121.4 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

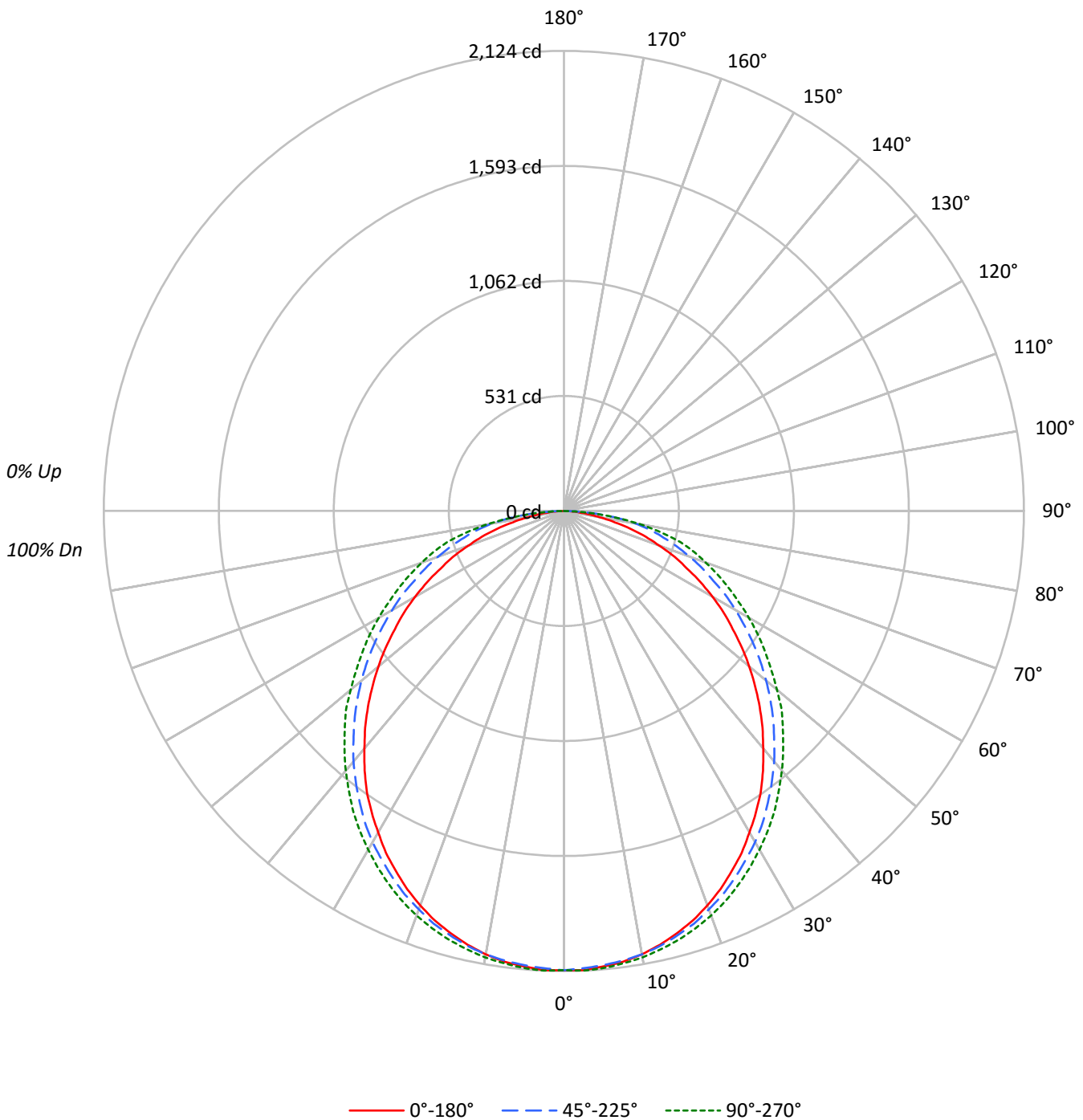
Input Watts (W): 49.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2853	2853	2853
5°	2851	2843	2861
10°	2839	2839	2860
15°	2812	2825	2854
20°	2775	2802	2846
25°	2723	2775	2829
30°	2662	2743	2806
35°	2604	2698	2783
40°	2515	2653	2751
45°	2433	2601	2721
50°	2339	2552	2688
55°	2235	2505	2662
60°	2130	2466	2657
65°	1996	2423	2673
70°	1848	2436	2745
75°	1654	2481	2900
80°	1337	2629	2837
85°	1007	2308	2249



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	200.7	3.3
10°-20°	573.5	9.5
20°-30°	862.1	14.3
30°-40°	1026.9	17.0
40°-50°	1051.0	17.4
50°-60°	946.2	15.7
60°-70°	743.1	12.3
70°-80°	482.3	8.0
80°-90°	149.2	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°	1636.3	27.1
0°-40°	2663.3	44.1
0°-60°	4660.5	77.2
0°-90°	6035.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6035.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2120	2120	2120	2120	2120	
5°	2111	2114	2105	2116	2118	201
15°	2018	2024	2028	2045	2049	569
25°	1834	1850	1869	1900	1905	845
35°	1585	1604	1643	1683	1695	989
45°	1279	1309	1367	1418	1430	986
55°	953	995	1068	1123	1135	854
65°	627	675	761	824	840	624
75°	318	380	477	542	558	337
85°	65	121	150	146	146	79
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2120.1	2120.1	2120.1	2120.1	2120.1
2.5°	2122.1	2122.1	2112.5	2122.1	2124.0
5°	2110.6	2114.4	2104.8	2116.3	2118.2
7.5°	2099.0	2099.0	2093.3	2104.8	2106.7
10°	2078.0	2079.9	2078.0	2091.4	2093.3
12.5°	2051.1	2055.0	2056.9	2070.3	2072.2
15°	2018.5	2024.3	2028.1	2045.4	2049.2
17.5°	1982.1	1987.9	1997.5	2016.6	2020.5
20°	1938.0	1945.7	1957.2	1982.1	1987.9
22.5°	1890.1	1897.8	1916.9	1939.9	1949.5
25°	1834.5	1849.8	1869.0	1899.7	1905.4
27.5°	1778.9	1792.3	1817.3	1849.8	1857.5
30°	1713.7	1734.8	1765.5	1798.1	1805.8
32.5°	1650.5	1671.6	1708.0	1742.5	1752.1
35°	1585.3	1604.5	1642.8	1683.1	1694.6
37.5°	1510.5	1535.5	1577.6	1617.9	1629.4
40°	1432.0	1462.6	1510.5	1552.7	1566.1
42.5°	1357.2	1389.8	1437.7	1483.7	1499.0
45°	1278.6	1309.3	1366.8	1418.5	1430.0
47.5°	1198.1	1232.6	1293.9	1345.7	1364.9
50°	1117.6	1154.0	1219.2	1272.8	1284.3
52.5°	1037.1	1075.4	1144.4	1201.9	1207.7
55°	952.7	994.9	1067.7	1123.3	1134.8
57.5°	876.0	912.5	991.1	1048.6	1062.0
60°	791.7	832.0	916.3	970.0	987.2
62.5°	711.2	753.4	841.5	895.2	910.5
65°	626.8	674.8	761.0	824.3	839.6
67.5°	554.0	600.0	692.0	753.4	768.7
70°	469.7	521.4	619.2	682.4	697.8
72.5°	396.8	450.5	548.2	609.6	632.6
75°	318.2	379.6	477.3	542.5	557.8
77.5°	241.5	312.5	412.1	462.0	462.0
80°	172.5	247.3	339.3	362.3	366.1
82.5°	113.1	185.9	251.1	249.2	249.2
85°	65.2	120.8	149.5	145.7	145.7
87.5°	24.9	49.8	53.7	53.7	51.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)