

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: P311666

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-S-CA08-W2A-U-5500K**

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: P311666
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-CA08-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 5500K 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: 6025.0 lumens
Efficiency: N/A
Efficacy: 123.2 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

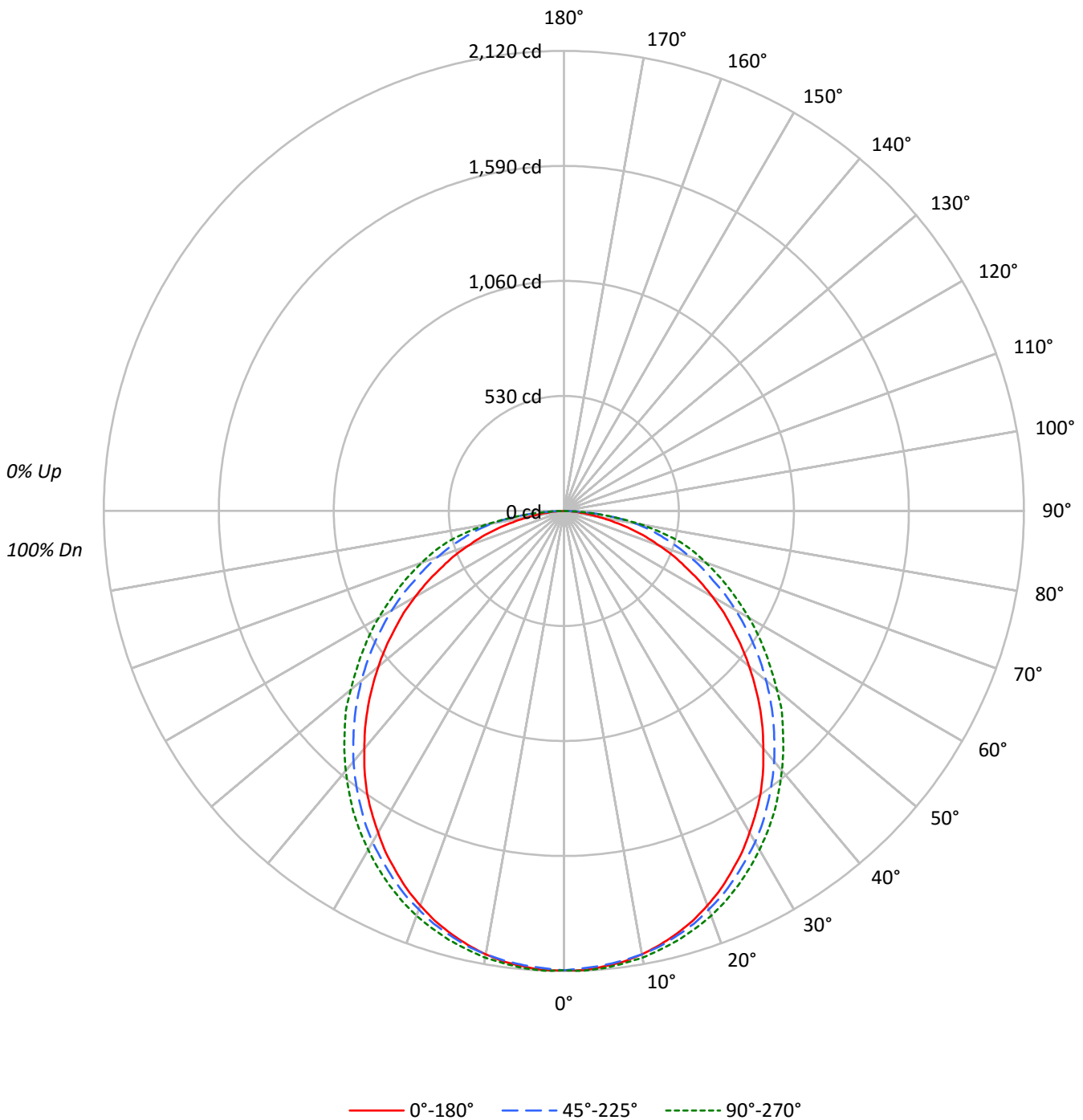
Input Watts (W): 48.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2848	2848	2848
5°	2846	2838	2856
10°	2834	2834	2855
15°	2807	2820	2850
20°	2770	2798	2842
25°	2719	2770	2824
30°	2658	2738	2801
35°	2600	2694	2779
40°	2511	2649	2746
45°	2429	2596	2717
50°	2335	2548	2684
55°	2231	2501	2658
60°	2127	2462	2652
65°	1992	2419	2669
70°	1845	2432	2740
75°	1652	2477	2895
80°	1334	2624	2832
85°	1005	2305	2245



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	200.4	3.3
10°-20°	572.6	9.5
20°-30°	860.7	14.3
30°-40°	1025.2	17.0
40°-50°	1049.3	17.4
50°-60°	944.6	15.7
60°-70°	741.8	12.3
70°-80°	481.5	8.0
80°-90°	148.9	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°	1633.6	27.1
0°-40°	2658.9	44.1
0°-60°	4652.8	77.2
0°-90°	6025.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6025.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2117	2117	2117	2117	2117	
5°	2107	2111	2101	2113	2115	200
15°	2015	2021	2025	2042	2046	568
25°	1832	1847	1866	1896	1902	844
35°	1583	1602	1640	1680	1692	987
45°	1276	1307	1364	1416	1428	984
55°	951	993	1066	1122	1133	853
65°	626	674	760	823	838	623
75°	318	379	476	542	557	336
85°	65	121	149	145	145	79
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2116.6	2116.6	2116.6	2116.6	2116.6
2.5°	2118.5	2118.5	2109.0	2118.5	2120.4
5°	2107.1	2110.9	2101.3	2112.8	2114.7
7.5°	2095.6	2095.6	2089.8	2101.3	2103.2
10°	2074.5	2076.4	2074.5	2087.9	2089.8
12.5°	2047.7	2051.6	2053.5	2066.9	2068.8
15°	2015.2	2020.9	2024.8	2042.0	2045.8
17.5°	1978.8	1984.6	1994.1	2013.3	2017.1
20°	1934.8	1942.5	1954.0	1978.8	1984.6
22.5°	1887.0	1894.6	1913.8	1936.7	1946.3
25°	1831.5	1846.8	1865.9	1896.5	1902.3
27.5°	1776.0	1789.4	1814.2	1846.8	1854.4
30°	1710.9	1732.0	1762.6	1795.1	1802.8
32.5°	1647.7	1668.8	1705.2	1739.6	1749.2
35°	1582.7	1601.8	1640.1	1680.3	1691.8
37.5°	1508.0	1532.9	1575.0	1615.2	1626.7
40°	1429.6	1460.2	1508.0	1550.1	1563.5
42.5°	1354.9	1387.5	1435.3	1481.3	1496.6
45°	1276.5	1307.1	1364.5	1416.2	1427.7
47.5°	1196.1	1230.5	1291.8	1343.5	1362.6
50°	1115.7	1152.1	1217.2	1270.7	1282.2
52.5°	1035.3	1073.6	1142.5	1199.9	1205.7
55°	951.1	993.2	1066.0	1121.5	1132.9
57.5°	874.6	911.0	989.4	1046.8	1060.2
60°	790.4	830.6	914.8	968.4	985.6
62.5°	710.0	752.1	840.1	893.7	909.0
65°	625.8	673.6	759.8	822.9	838.2
67.5°	553.1	599.0	690.9	752.1	767.4
70°	468.9	520.5	618.1	681.3	696.6
72.5°	396.1	449.7	547.3	608.6	631.5
75°	317.7	378.9	476.5	541.6	556.9
77.5°	241.1	311.9	411.5	461.2	461.2
80°	172.2	246.9	338.7	361.7	365.5
82.5°	112.9	185.6	250.7	248.8	248.8
85°	65.1	120.6	149.3	145.4	145.4
87.5°	24.9	49.8	53.6	53.6	51.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)