

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: P314453

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-S-CP125-W2A-U-4500K**

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: P314453
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-L83050-S-CP125-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" POLYCARB SHEET
Light Source: (336) 4500K 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: 6001.0 lumens
Efficiency: N/A
Efficacy: 120.3 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

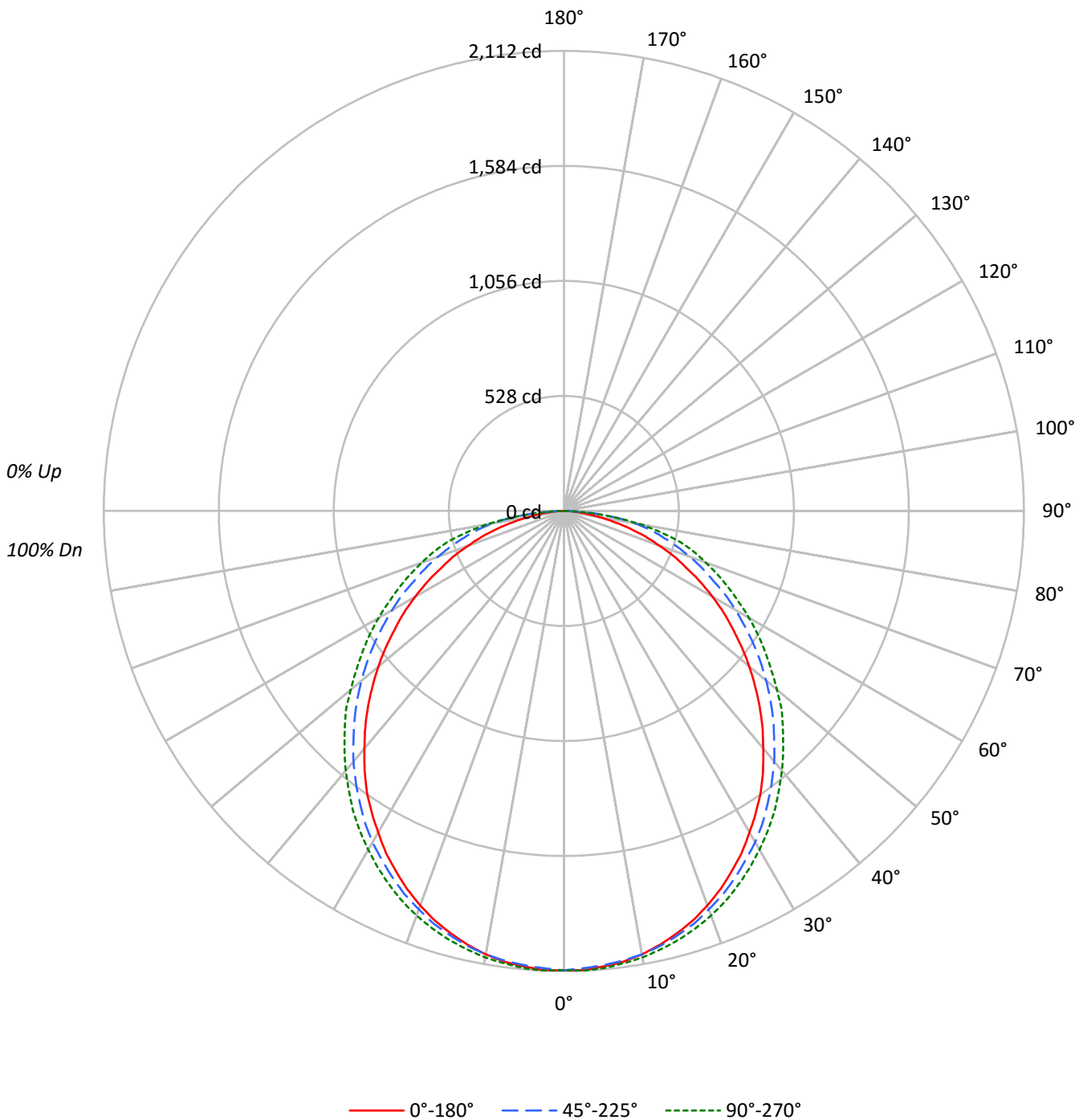
Input Watts (W): 49.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2837	2837	2837
5°	2835	2827	2845
10°	2823	2823	2844
15°	2796	2809	2838
20°	2759	2787	2830
25°	2708	2759	2813
30°	2648	2728	2790
35°	2589	2683	2768
40°	2501	2638	2735
45°	2419	2586	2706
50°	2326	2538	2673
55°	2222	2491	2647
60°	2118	2452	2642
65°	1984	2409	2658
70°	1837	2422	2729
75°	1645	2467	2884
80°	1330	2614	2821
85°	1000	2296	2237



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	199.6	3.3
10°-20°	570.3	9.5
20°-30°	857.3	14.3
30°-40°	1021.1	17.0
40°-50°	1045.1	17.4
50°-60°	940.9	15.7
60°-70°	738.9	12.3
70°-80°	479.6	8.0
80°-90°	148.3	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°	1627.1	27.1
0°-40°	2648.3	44.1
0°-60°	4634.2	77.2
0°-90°	6001.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6001.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2108	2108	2108	2108	2108	
5°	2099	2102	2093	2104	2106	199
15°	2007	2013	2017	2034	2038	566
25°	1824	1839	1858	1889	1895	840
35°	1576	1595	1634	1674	1685	983
45°	1271	1302	1359	1410	1422	980
55°	947	989	1062	1117	1128	849
65°	623	671	757	820	835	620
75°	316	377	475	539	555	335
85°	65	120	149	145	145	78
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2108.2	2108.2	2108.2	2108.2	2108.2
2.5°	2110.1	2110.1	2100.6	2110.1	2112.0
5°	2098.7	2102.5	2092.9	2104.4	2106.3
7.5°	2087.2	2087.2	2081.5	2092.9	2094.8
10°	2066.3	2068.2	2066.3	2079.6	2081.5
12.5°	2039.6	2043.4	2045.3	2058.6	2060.5
15°	2007.2	2012.9	2016.7	2033.9	2037.7
17.5°	1970.9	1976.7	1986.2	2005.3	2009.1
20°	1927.1	1934.7	1946.2	1970.9	1976.7
22.5°	1879.5	1887.1	1906.1	1929.0	1938.5
25°	1824.2	1839.4	1858.5	1889.0	1894.7
27.5°	1768.9	1782.2	1807.0	1839.4	1847.0
30°	1704.1	1725.1	1755.6	1788.0	1795.6
32.5°	1641.2	1662.2	1698.4	1732.7	1742.2
35°	1576.4	1595.4	1633.6	1673.6	1685.0
37.5°	1502.0	1526.8	1568.8	1608.8	1620.2
40°	1423.9	1454.4	1502.0	1544.0	1557.3
42.5°	1349.5	1382.0	1429.6	1475.4	1490.6
45°	1271.4	1301.9	1359.1	1410.5	1422.0
47.5°	1191.3	1225.6	1286.6	1338.1	1357.2
50°	1111.3	1147.5	1212.3	1265.7	1277.1
52.5°	1031.2	1069.3	1138.0	1195.1	1200.9
55°	947.4	989.3	1061.7	1117.0	1128.4
57.5°	871.1	907.3	985.5	1042.7	1056.0
60°	787.2	827.3	911.1	964.5	981.7
62.5°	707.2	749.1	836.8	890.2	905.4
65°	623.3	671.0	756.7	819.6	834.9
67.5°	550.9	596.6	688.1	749.1	764.4
70°	467.0	518.5	615.7	678.6	693.8
72.5°	394.6	447.9	545.2	606.2	629.0
75°	316.4	377.4	474.6	539.4	554.7
77.5°	240.2	310.7	409.8	459.4	459.4
80°	171.6	245.9	337.4	360.3	364.1
82.5°	112.5	184.9	249.7	247.8	247.8
85°	64.8	120.1	148.7	144.9	144.9
87.5°	24.8	49.6	53.4	53.4	51.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)