

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: P311675

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-S-CA125-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: P311675  
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-5500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" 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

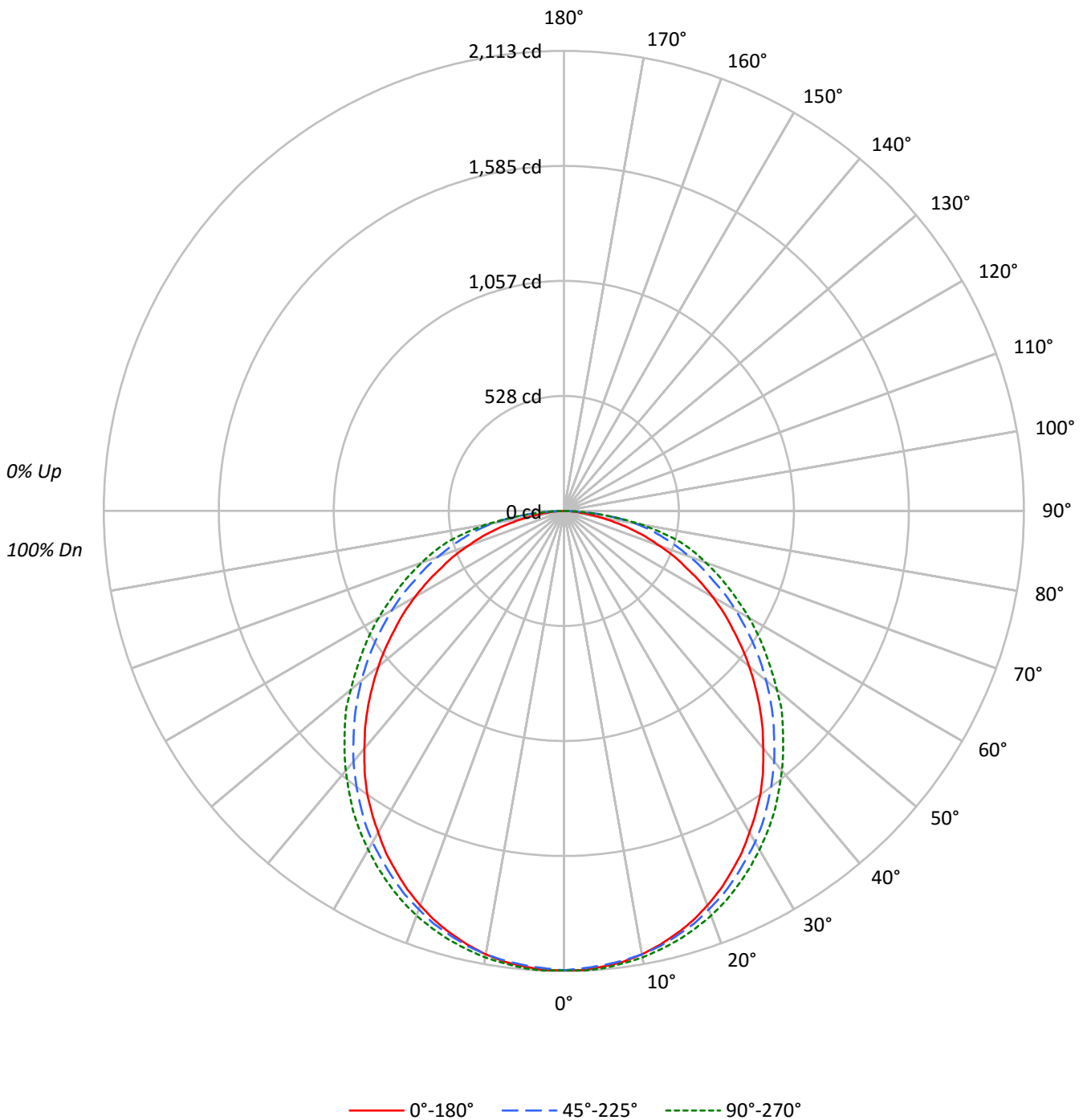
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6004.0 lumens  
Efficiency: N/A  
Efficacy: 122.8 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<sub>in</sub>): 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°	2838	2838	2838
5°	2836	2828	2846
10°	2824	2824	2845
15°	2797	2811	2840
20°	2761	2788	2832
25°	2710	2760	2814
30°	2649	2729	2791
35°	2591	2685	2769
40°	2502	2640	2737
45°	2420	2587	2707
50°	2327	2539	2675
55°	2223	2492	2648
60°	2119	2453	2643
65°	1985	2410	2659
70°	1838	2423	2731
75°	1646	2469	2885
80°	1330	2616	2823
85°	1000	2297	2237



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	199.7	3.3
10°-20°	570.6	9.5
20°-30°	857.7	14.3
30°-40°	1021.6	17.0
40°-50°	1045.6	17.4
50°-60°	941.4	15.7
60°-70°	739.3	12.3
70°-80°	479.8	8.0
80°-90°	148.4	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°	1627.9	27.1
0°-40°	2649.6	44.1
0°-60°	4636.5	77.2
0°-90°	6004.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6004.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2109	2109	2109	2109	2109	
5°	2100	2104	2094	2105	2107	200
15°	2008	2014	2018	2035	2039	566
25°	1825	1840	1859	1890	1896	841
35°	1577	1596	1634	1674	1686	984
45°	1272	1302	1360	1411	1423	981
55°	948	990	1062	1118	1129	850
65°	624	671	757	820	835	621
75°	317	378	475	540	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°	2109.2	2109.2	2109.2	2109.2	2109.2
2.5°	2111.2	2111.2	2101.6	2111.2	2113.1
5°	2099.7	2103.5	2094.0	2105.4	2107.3
7.5°	2088.3	2088.3	2082.5	2094.0	2095.9
10°	2067.3	2069.2	2067.3	2080.6	2082.5
12.5°	2040.6	2044.4	2046.3	2059.7	2061.6
15°	2008.2	2013.9	2017.7	2034.9	2038.7
17.5°	1971.9	1977.7	1987.2	2006.3	2010.1
20°	1928.1	1935.7	1947.1	1971.9	1977.7
22.5°	1880.4	1888.0	1907.1	1930.0	1939.5
25°	1825.1	1840.3	1859.4	1889.9	1895.7
27.5°	1769.8	1783.1	1807.9	1840.3	1848.0
30°	1704.9	1725.9	1756.4	1788.9	1796.5
32.5°	1642.0	1663.0	1699.2	1733.5	1743.1
35°	1577.2	1596.2	1634.4	1674.4	1685.9
37.5°	1502.8	1527.6	1569.5	1609.6	1621.0
40°	1424.6	1455.1	1502.8	1544.7	1558.1
42.5°	1350.2	1382.6	1430.3	1476.1	1491.3
45°	1272.0	1302.5	1359.8	1411.2	1422.7
47.5°	1191.9	1226.3	1287.3	1338.8	1357.8
50°	1111.8	1148.1	1212.9	1266.3	1277.8
52.5°	1031.7	1069.9	1138.5	1195.7	1201.5
55°	947.8	989.8	1062.3	1117.6	1129.0
57.5°	871.5	907.8	986.0	1043.2	1056.5
60°	787.6	827.7	911.6	965.0	982.2
62.5°	707.5	749.5	837.2	890.6	905.9
65°	623.6	671.3	757.1	820.0	835.3
67.5°	551.1	596.9	688.5	749.5	764.7
70°	467.2	518.7	616.0	678.9	694.2
72.5°	394.8	448.2	545.4	606.5	629.3
75°	316.6	377.6	474.9	539.7	555.0
77.5°	240.3	310.9	410.0	459.6	459.6
80°	171.6	246.0	337.6	360.4	364.3
82.5°	112.5	185.0	249.8	247.9	247.9
85°	64.8	120.1	148.8	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)