

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: P311045

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-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: P311045
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
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-CA125-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, RIBBED 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: 6191.0 lumens
Efficiency: N/A
Efficacy: 114.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

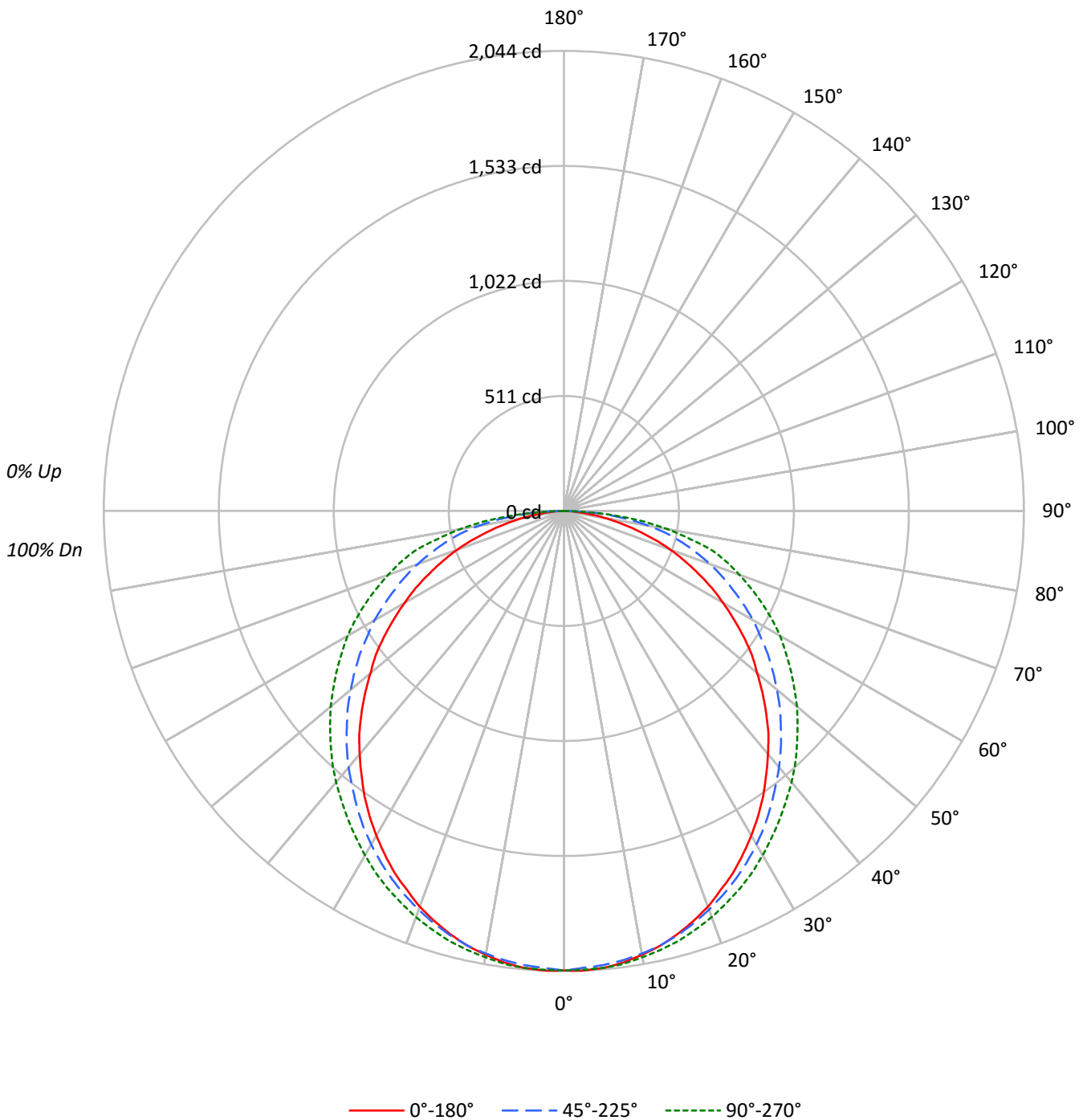
Input Watts (W): 54.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2747	2747	2747
5°	2752	2735	2752
10°	2736	2728	2750
15°	2712	2718	2752
20°	2679	2700	2750
25°	2638	2680	2748
30°	2588	2658	2745
35°	2537	2632	2746
40°	2478	2612	2764
45°	2419	2595	2787
50°	2348	2588	2829
55°	2289	2592	2886
60°	2200	2615	2985
65°	2099	2642	3093
70°	1988	2723	3264
75°	1773	2840	3567
80°	1512	3008	3645
85°	1078	2981	3487



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.2	3.1
10°-20°	552.5	8.9
20°-30°	834.5	13.5
30°-40°	1005.8	16.2
40°-50°	1055.9	17.1
50°-60°	987.8	16.0
60°-70°	815.8	13.2
70°-80°	555.9	9.0
80°-90°	189.6	3.1
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°	1580.2	25.5
0°-40°	2586.0	41.8
0°-60°	4629.8	74.8
0°-90°	6191.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6191.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2042	2042	2042	2042	2042	
5°	2038	2036	2025	2038	2038	193
15°	1947	1949	1951	1972	1976	549
25°	1777	1785	1806	1840	1851	818
35°	1545	1561	1602	1656	1672	965
45°	1272	1298	1364	1438	1464	981
55°	976	1015	1105	1196	1230	871
65°	659	715	830	935	972	654
75°	341	419	546	649	686	364
85°	70	138	193	218	226	87
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2041.7	2041.7	2041.7	2041.7	2041.7
2.5°	2043.8	2041.7	2031.5	2041.7	2039.7
5°	2037.6	2035.6	2025.3	2037.6	2037.6
7.5°	2023.3	2023.3	2013.0	2027.4	2029.4
10°	2002.7	2002.7	1996.5	2013.0	2013.0
12.5°	1978.1	1978.1	1978.1	1994.5	1996.5
15°	1947.3	1949.3	1951.4	1971.9	1976.0
17.5°	1910.3	1914.4	1920.5	1945.2	1949.3
20°	1871.3	1875.4	1885.6	1914.4	1920.5
22.5°	1822.0	1832.2	1846.6	1879.5	1885.6
25°	1776.8	1785.0	1805.5	1840.4	1850.7
27.5°	1721.3	1733.6	1760.3	1797.3	1811.7
30°	1665.8	1678.2	1711.0	1754.2	1766.5
32.5°	1606.3	1624.8	1659.7	1704.9	1719.3
35°	1544.7	1561.1	1602.2	1655.6	1672.0
37.5°	1476.9	1499.5	1544.7	1602.2	1622.7
40°	1411.1	1435.8	1487.1	1548.8	1573.4
42.5°	1345.4	1370.1	1427.6	1497.4	1522.1
45°	1271.5	1298.2	1363.9	1437.8	1464.5
47.5°	1197.5	1230.4	1302.3	1380.3	1409.1
50°	1121.5	1158.5	1236.5	1318.7	1351.6
52.5°	1053.7	1088.7	1170.8	1259.1	1290.0
55°	975.7	1014.7	1105.1	1195.5	1230.4
57.5°	895.6	938.7	1035.2	1133.8	1168.8
60°	817.5	864.8	971.6	1070.2	1109.2
62.5°	741.5	788.8	899.7	1002.4	1041.4
65°	659.4	714.8	829.8	934.6	971.6
67.5°	581.3	640.9	762.1	864.8	901.7
70°	505.3	562.8	692.2	792.9	829.8
72.5°	423.1	488.9	618.3	723.0	762.1
75°	341.0	419.0	546.4	649.1	686.1
77.5°	265.0	345.1	472.4	556.7	575.1
80°	195.1	277.3	388.2	447.8	470.4
82.5°	125.3	207.5	295.8	338.9	357.4
85°	69.8	137.6	193.1	217.7	225.9
87.5°	28.8	59.6	78.1	88.3	88.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)