

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: P311065

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-CP187-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: P311065
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-CP187-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB 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: 5845.0 lumens
Efficiency: N/A
Efficacy: 106.5 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

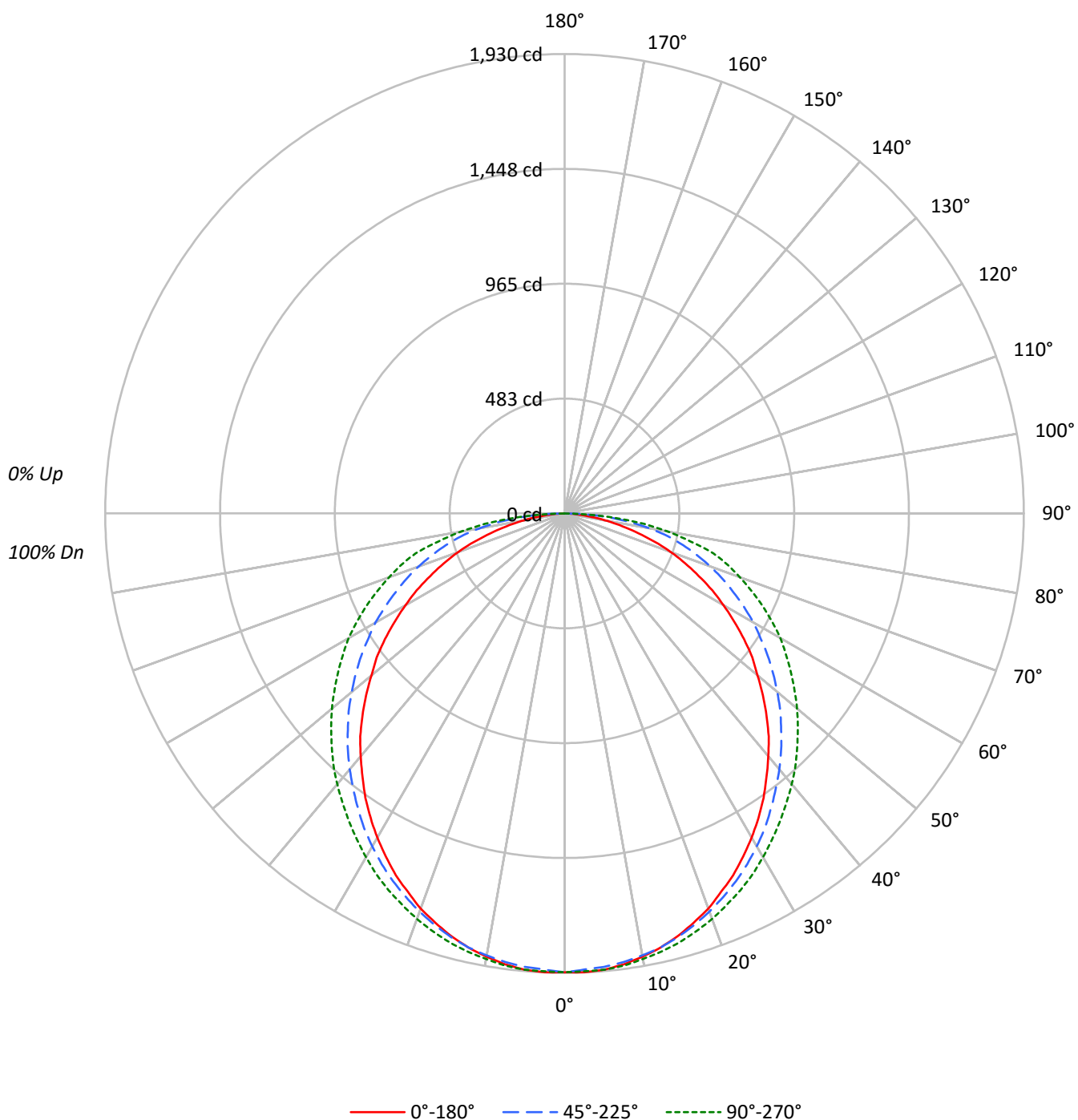
Input Watts (W): 54.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	100	96	92	96	92	89		92	89	87		82
2	98	89	81	75	95	87	80	74	83	78	73		80	75	71		67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		56
4	81	68	59	52	79	67	58	52	64	57	51		62	56	50		47
5	74	61	52	45	72	60	51	44	58	50	44		56	49	43		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	64	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	37	31	57	45	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2594	2594	2594
5°	2598	2583	2598
10°	2583	2575	2597
15°	2561	2566	2599
20°	2530	2549	2596
25°	2490	2531	2594
30°	2443	2510	2591
35°	2395	2485	2593
40°	2340	2466	2609
45°	2284	2450	2631
50°	2216	2444	2671
55°	2161	2447	2725
60°	2077	2468	2818
65°	1982	2494	2920
70°	1877	2571	3082
75°	1673	2681	3367
80°	1427	2840	3441
85°	1017	2814	3293



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	182.4	3.1
10°-20°	521.6	8.9
20°-30°	787.9	13.5
30°-40°	949.6	16.2
40°-50°	996.9	17.1
50°-60°	932.6	16.0
60°-70°	770.2	13.2
70°-80°	524.8	9.0
80°-90°	179.0	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°	1491.9	25.5
0°-40°	2441.5	41.8
0°-60°	4371.0	74.8
0°-90°	5845.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5845.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1928	1928	1928	1928	1928	
5°	1924	1922	1912	1924	1924	183
15°	1838	1840	1842	1862	1866	518
25°	1678	1685	1705	1738	1747	772
35°	1458	1474	1513	1563	1579	911
45°	1200	1226	1288	1358	1383	926
55°	921	958	1043	1129	1162	822
65°	622	675	784	882	917	617
75°	322	396	516	613	648	343
85°	66	130	182	206	213	83
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1927.6	1927.6	1927.6	1927.6	1927.6
2.5°	1929.6	1927.6	1917.9	1927.6	1925.7
5°	1923.8	1921.8	1912.1	1923.8	1923.8
7.5°	1910.2	1910.2	1900.5	1914.1	1916.0
10°	1890.8	1890.8	1885.0	1900.5	1900.5
12.5°	1867.5	1867.5	1867.5	1883.0	1885.0
15°	1838.4	1840.4	1842.3	1861.7	1865.6
17.5°	1803.5	1807.4	1813.2	1836.5	1840.4
20°	1766.7	1770.5	1780.2	1807.4	1813.2
22.5°	1720.1	1729.8	1743.4	1774.4	1780.2
25°	1677.5	1685.2	1704.6	1737.6	1747.3
27.5°	1625.1	1636.7	1662.0	1696.9	1710.4
30°	1572.7	1584.4	1615.4	1656.1	1667.8
32.5°	1516.5	1534.0	1566.9	1609.6	1623.2
35°	1458.3	1473.8	1512.6	1563.0	1578.6
37.5°	1394.3	1415.7	1458.3	1512.6	1532.0
40°	1332.3	1355.5	1404.0	1462.2	1485.5
42.5°	1270.2	1293.5	1347.8	1413.7	1437.0
45°	1200.4	1225.6	1287.7	1357.5	1382.7
47.5°	1130.6	1161.6	1229.5	1303.2	1330.3
50°	1058.8	1093.7	1167.4	1245.0	1276.0
52.5°	994.8	1027.8	1105.4	1188.8	1217.9
55°	921.2	958.0	1043.3	1128.7	1161.6
57.5°	845.5	886.2	977.4	1070.5	1103.4
60°	771.8	816.4	917.3	1010.4	1047.2
62.5°	700.1	744.7	849.4	946.4	983.2
65°	622.5	674.9	783.5	882.4	917.3
67.5°	548.8	605.1	719.5	816.4	851.3
70°	477.1	531.4	653.5	748.6	783.5
72.5°	399.5	461.5	583.7	682.6	719.5
75°	321.9	395.6	515.8	612.8	647.7
77.5°	250.2	325.8	446.0	525.5	543.0
80°	184.2	261.8	366.5	422.8	444.1
82.5°	118.3	195.9	279.3	320.0	337.4
85°	65.9	129.9	182.3	205.6	213.3
87.5°	27.1	56.2	73.7	83.4	83.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)