

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: P311032

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-CA08-W2A-U-3500K**

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: P311032
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-CA08-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 3500K 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: 5837.0 lumens
Efficiency: N/A
Efficacy: 110.5 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

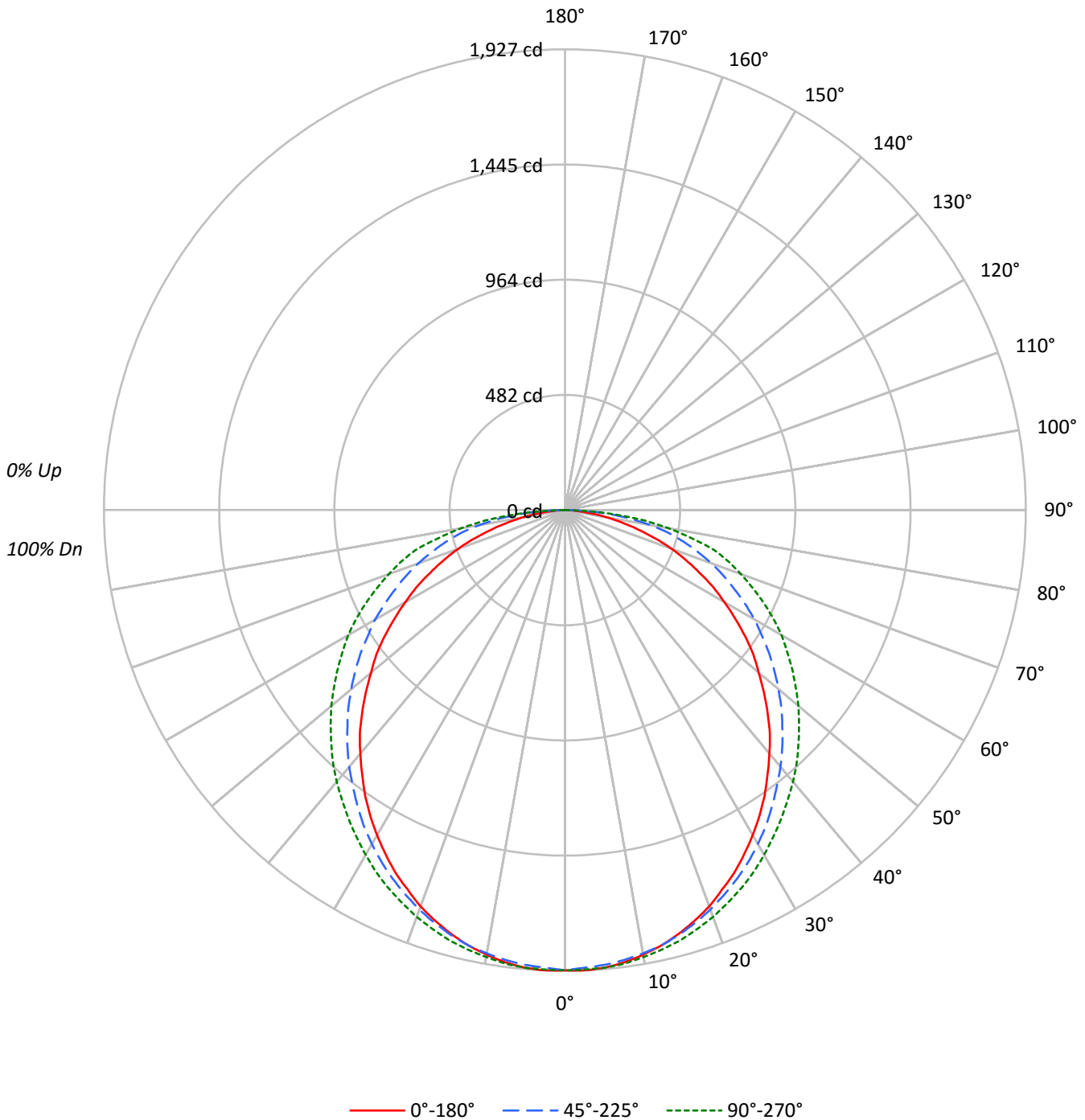
Input Watts (W): 52.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2590	2590	2590
5°	2595	2579	2595
10°	2580	2572	2593
15°	2557	2563	2595
20°	2526	2546	2593
25°	2487	2527	2590
30°	2440	2506	2588
35°	2392	2481	2589
40°	2337	2463	2605
45°	2281	2447	2627
50°	2213	2440	2667
55°	2158	2444	2721
60°	2074	2465	2814
65°	1979	2491	2916
70°	1874	2567	3078
75°	1671	2678	3362
80°	1426	2836	3436
85°	1016	2810	3288



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	182.2	3.1
10°-20°	520.9	8.9
20°-30°	786.8	13.5
30°-40°	948.3	16.2
40°-50°	995.5	17.1
50°-60°	931.4	16.0
60°-70°	769.1	13.2
70°-80°	524.1	9.0
80°-90°	178.7	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°	1489.9	25.5
0°-40°	2438.2	41.8
0°-60°	4365.0	74.8
0°-90°	5837.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5837.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1925	1925	1925	1925	1925	
5°	1921	1919	1910	1921	1921	182
15°	1836	1838	1840	1859	1863	518
25°	1675	1683	1702	1735	1745	771
35°	1456	1472	1511	1561	1576	910
45°	1199	1224	1286	1356	1381	925
55°	920	957	1042	1127	1160	821
65°	622	674	782	881	916	617
75°	322	395	515	612	647	343
85°	66	130	182	205	213	82
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1925.0	1925.0	1925.0	1925.0	1925.0
2.5°	1926.9	1925.0	1915.3	1925.0	1923.1
5°	1921.1	1919.2	1909.5	1921.1	1921.1
7.5°	1907.6	1907.6	1897.9	1911.4	1913.4
10°	1888.2	1888.2	1882.4	1897.9	1897.9
12.5°	1865.0	1865.0	1865.0	1880.4	1882.4
15°	1835.9	1837.8	1839.8	1859.1	1863.0
17.5°	1801.0	1804.9	1810.7	1834.0	1837.8
20°	1764.3	1768.1	1777.8	1804.9	1810.7
22.5°	1717.8	1727.5	1741.0	1772.0	1777.8
25°	1675.2	1682.9	1702.3	1735.2	1744.9
27.5°	1622.9	1634.5	1659.7	1694.5	1708.1
30°	1570.6	1582.2	1613.2	1653.9	1665.5
32.5°	1514.4	1531.9	1564.8	1607.4	1620.9
35°	1456.3	1471.8	1510.6	1560.9	1576.4
37.5°	1392.4	1413.7	1456.3	1510.6	1529.9
40°	1330.5	1353.7	1402.1	1460.2	1483.4
42.5°	1268.5	1291.7	1345.9	1411.8	1435.0
45°	1198.8	1223.9	1285.9	1355.6	1380.8
47.5°	1129.0	1160.0	1227.8	1301.4	1328.5
50°	1057.4	1092.2	1165.8	1243.3	1274.3
52.5°	993.5	1026.4	1103.9	1187.1	1216.2
55°	919.9	956.7	1041.9	1127.1	1160.0
57.5°	844.4	885.0	976.1	1069.0	1101.9
60°	770.8	815.3	916.0	1009.0	1045.8
62.5°	699.1	743.7	848.2	945.1	981.9
65°	621.7	673.9	782.4	881.2	916.0
67.5°	548.1	604.2	718.5	815.3	850.2
70°	476.4	530.6	652.6	747.5	782.4
72.5°	398.9	460.9	582.9	681.7	718.5
75°	321.5	395.1	515.1	612.0	646.8
77.5°	249.8	325.4	445.4	524.8	542.3
80°	184.0	261.4	366.0	422.2	443.5
82.5°	118.1	195.6	278.9	319.5	337.0
85°	65.8	129.8	182.0	205.3	213.0
87.5°	27.1	56.2	73.6	83.3	83.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)