

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: P311041

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-CA125-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: P311041
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-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" 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: 5816.0 lumens
Efficiency: N/A
Efficacy: 110.2 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

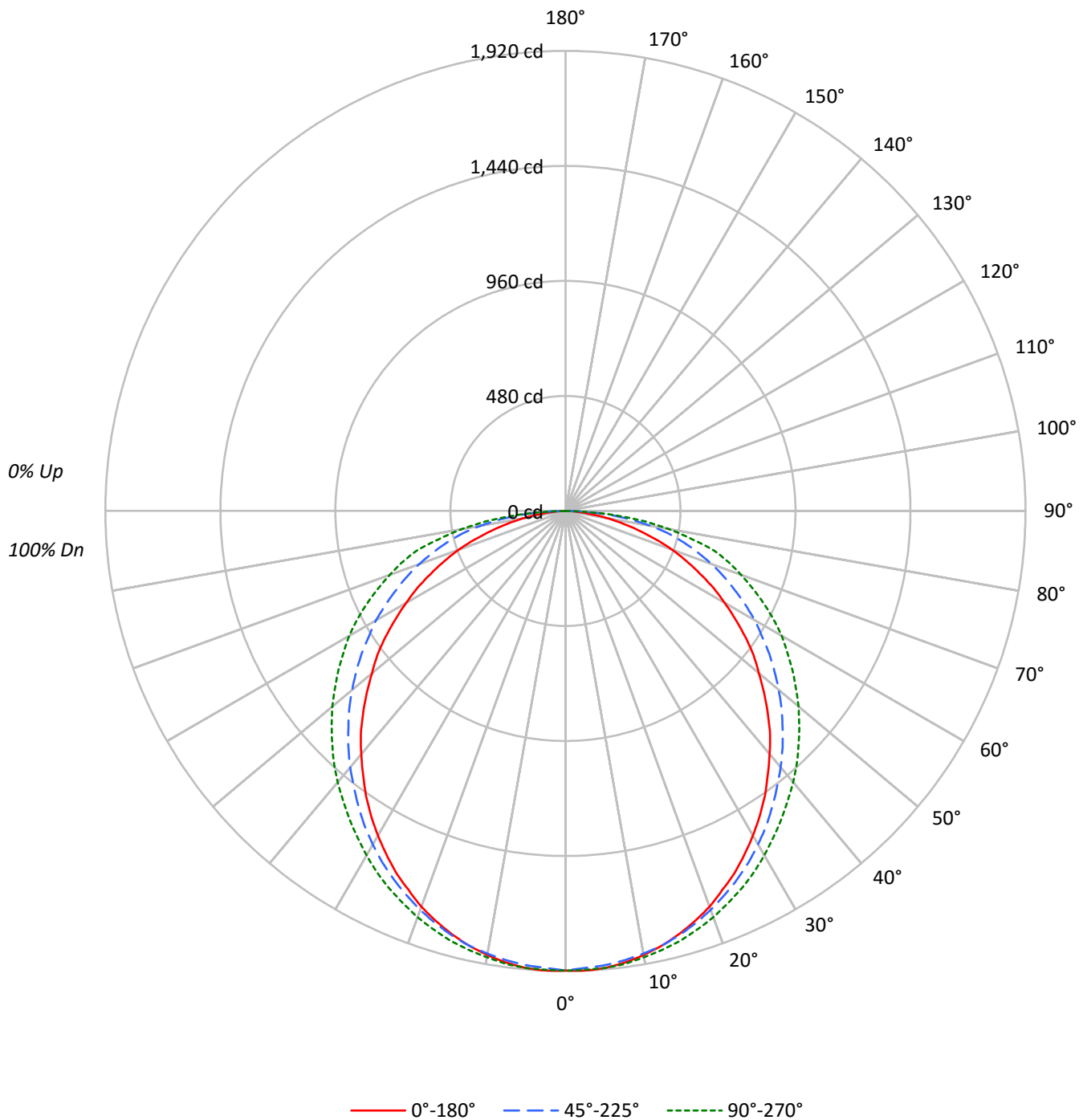
Input Watts (W): 52.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2581	2581	2581
5°	2585	2570	2585
10°	2570	2563	2584
15°	2548	2554	2586
20°	2517	2536	2583
25°	2478	2518	2581
30°	2431	2497	2578
35°	2383	2472	2580
40°	2328	2454	2596
45°	2273	2438	2618
50°	2205	2431	2658
55°	2150	2435	2711
60°	2067	2456	2804
65°	1972	2482	2906
70°	1867	2558	3067
75°	1665	2668	3350
80°	1420	2826	3424
85°	1013	2800	3277



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	181.5	3.1
10°-20°	519.0	8.9
20°-30°	784.0	13.5
30°-40°	944.9	16.2
40°-50°	991.9	17.1
50°-60°	928.0	16.0
60°-70°	766.4	13.2
70°-80°	522.2	9.0
80°-90°	178.1	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°	1484.5	25.5
0°-40°	2429.4	41.8
0°-60°	4349.3	74.8
0°-90°	5816.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5816.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1918	1918	1918	1918	1918	
5°	1914	1912	1903	1914	1914	182
15°	1829	1831	1833	1852	1856	516
25°	1669	1677	1696	1729	1739	768
35°	1451	1466	1505	1555	1571	907
45°	1194	1220	1281	1351	1376	921
55°	917	953	1038	1123	1156	818
65°	619	672	780	878	913	614
75°	320	394	513	610	644	342
85°	66	129	181	204	212	82
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1918.1	1918.1	1918.1	1918.1	1918.1
2.5°	1920.0	1918.1	1908.4	1918.1	1916.1
5°	1914.2	1912.3	1902.6	1914.2	1914.2
7.5°	1900.7	1900.7	1891.1	1904.6	1906.5
10°	1881.4	1881.4	1875.6	1891.1	1891.1
12.5°	1858.2	1858.2	1858.2	1873.7	1875.6
15°	1829.3	1831.2	1833.2	1852.5	1856.3
17.5°	1794.6	1798.4	1804.2	1827.4	1831.2
20°	1757.9	1761.8	1771.4	1798.4	1804.2
22.5°	1711.6	1721.2	1734.8	1765.6	1771.4
25°	1669.1	1676.9	1696.2	1729.0	1738.6
27.5°	1617.0	1628.6	1653.7	1688.4	1701.9
30°	1564.9	1576.5	1607.4	1647.9	1659.5
32.5°	1509.0	1526.3	1559.2	1601.6	1615.1
35°	1451.1	1466.5	1505.1	1555.3	1570.7
37.5°	1387.4	1408.6	1451.1	1505.1	1524.4
40°	1325.7	1348.8	1397.1	1455.0	1478.1
42.5°	1263.9	1287.1	1341.1	1406.7	1429.9
45°	1194.4	1219.5	1281.3	1350.8	1375.8
47.5°	1125.0	1155.9	1223.4	1296.7	1323.7
50°	1053.6	1088.3	1161.6	1238.8	1269.7
52.5°	989.9	1022.7	1099.9	1182.9	1211.8
55°	916.6	953.2	1038.1	1123.1	1155.9
57.5°	841.3	881.8	972.5	1065.2	1098.0
60°	768.0	812.4	912.7	1005.3	1042.0
62.5°	696.6	741.0	845.2	941.7	978.3
65°	619.4	671.5	779.6	878.0	912.7
67.5°	546.1	602.0	715.9	812.4	847.1
70°	474.7	528.7	650.3	744.8	779.6
72.5°	397.5	459.3	580.8	679.2	715.9
75°	320.3	393.6	513.3	609.8	644.5
77.5°	248.9	324.2	443.8	522.9	540.3
80°	183.3	260.5	364.7	420.7	441.9
82.5°	117.7	194.9	277.9	318.4	335.8
85°	65.6	129.3	181.4	204.5	212.3
87.5°	27.0	56.0	73.3	83.0	83.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)