

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: P311030

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-CA08-W2A-U-2700K**

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: P311030
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-2700K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 2700K 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: 5483.0 lumens
Efficiency: N/A
Efficacy: 104.2 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

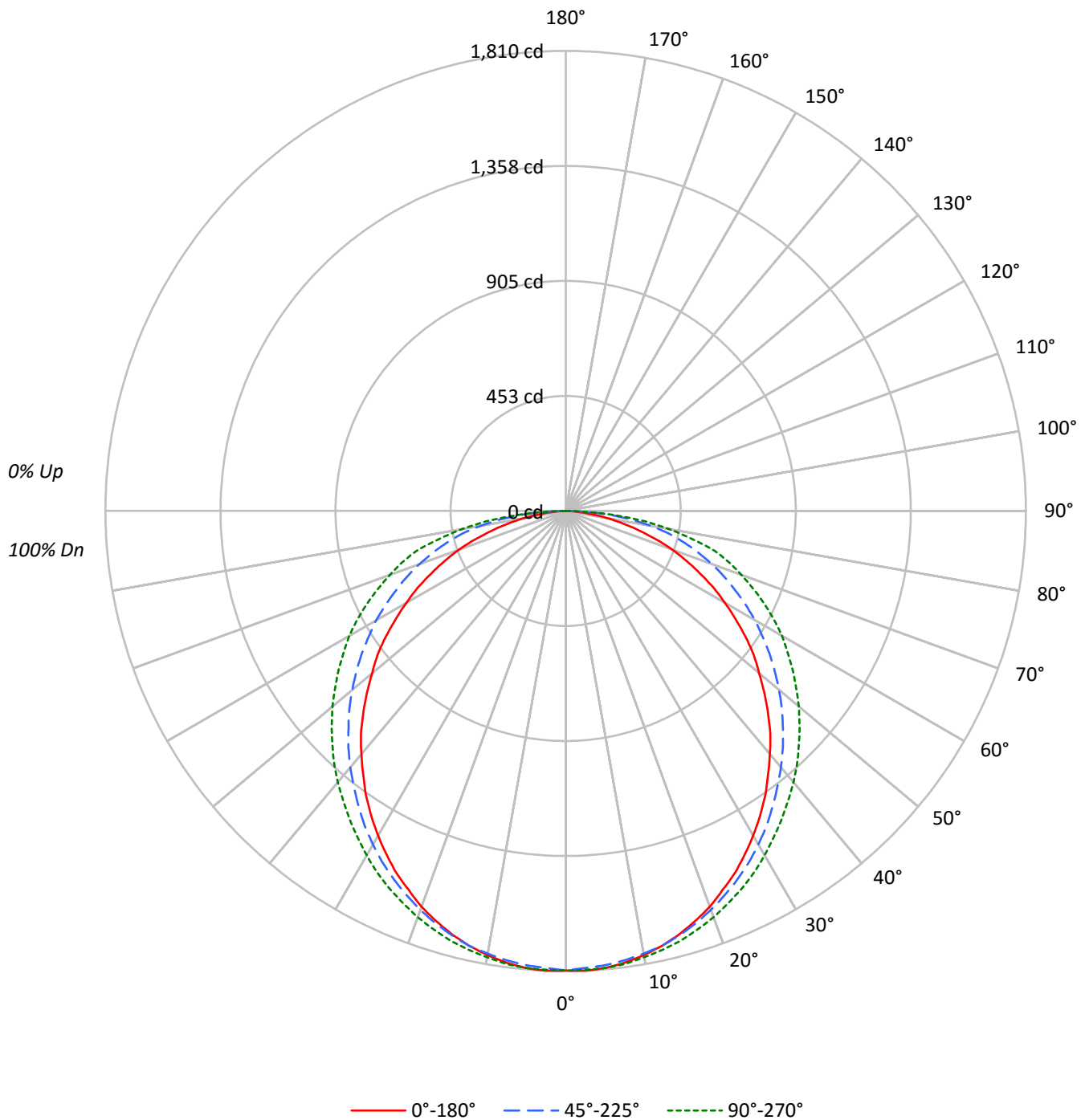
Input Watts (W): 52.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2433	2433	2433
5°	2437	2423	2437
10°	2423	2416	2436
15°	2402	2407	2438
20°	2373	2391	2435
25°	2336	2374	2433
30°	2292	2354	2431
35°	2247	2331	2432
40°	2195	2313	2448
45°	2143	2298	2468
50°	2079	2292	2506
55°	2027	2296	2556
60°	1948	2316	2643
65°	1859	2340	2740
70°	1760	2412	2891
75°	1570	2516	3159
80°	1339	2664	3228
85°	956	2640	3089



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	171.1	3.1
10°-20°	489.3	8.9
20°-30°	739.1	13.5
30°-40°	890.8	16.2
40°-50°	935.1	17.1
50°-60°	874.9	16.0
60°-70°	722.5	13.2
70°-80°	492.3	9.0
80°-90°	167.9	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°	1399.5	25.5
0°-40°	2290.3	41.8
0°-60°	4100.3	74.8
0°-90°	5483.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5483.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1808	1808	1808	1808	1808	
5°	1805	1803	1794	1805	1805	171
15°	1725	1726	1728	1746	1750	486
25°	1574	1581	1599	1630	1639	724
35°	1368	1383	1419	1466	1481	855
45°	1126	1150	1208	1273	1297	868
55°	864	899	979	1059	1090	771
65°	584	633	735	828	860	579
75°	302	371	484	575	608	322
85°	62	122	171	193	200	77
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1808.2	1808.2	1808.2	1808.2	1808.2
2.5°	1810.1	1808.2	1799.1	1808.2	1806.4
5°	1804.6	1802.8	1793.7	1804.6	1804.6
7.5°	1791.9	1791.9	1782.8	1795.5	1797.3
10°	1773.7	1773.7	1768.2	1782.8	1782.8
12.5°	1751.9	1751.9	1751.9	1766.4	1768.2
15°	1724.6	1726.4	1728.2	1746.4	1750.0
17.5°	1691.8	1695.5	1700.9	1722.7	1726.4
20°	1657.3	1660.9	1670.0	1695.5	1700.9
22.5°	1613.6	1622.7	1635.4	1664.5	1670.0
25°	1573.6	1580.9	1599.0	1630.0	1639.1
27.5°	1524.5	1535.4	1559.0	1591.8	1604.5
30°	1475.3	1486.3	1515.4	1553.6	1564.5
32.5°	1422.6	1439.0	1469.9	1509.9	1522.6
35°	1368.0	1382.6	1418.9	1466.2	1480.8
37.5°	1308.0	1328.0	1368.0	1418.9	1437.1
40°	1249.8	1271.6	1317.1	1371.6	1393.5
42.5°	1191.6	1213.4	1264.3	1326.2	1348.0
45°	1126.1	1149.7	1207.9	1273.4	1297.1
47.5°	1060.6	1089.7	1153.3	1222.5	1247.9
50°	993.3	1026.0	1095.1	1167.9	1197.0
52.5°	933.2	964.2	1036.9	1115.1	1142.4
55°	864.1	898.7	978.7	1058.8	1089.7
57.5°	793.2	831.4	916.9	1004.2	1035.1
60°	724.0	765.9	860.5	947.8	982.3
62.5°	656.7	698.6	796.8	887.8	922.3
65°	584.0	633.1	734.9	827.7	860.5
67.5°	514.8	567.6	674.9	765.9	798.6
70°	447.5	498.5	613.1	702.2	734.9
72.5°	374.7	433.0	547.6	640.3	674.9
75°	302.0	371.1	483.9	574.9	607.6
77.5°	234.7	305.6	418.4	493.0	509.4
80°	172.8	245.6	343.8	396.6	416.6
82.5°	111.0	183.7	262.0	300.2	316.5
85°	61.9	121.9	171.0	192.8	200.1
87.5°	25.5	52.8	69.1	78.2	78.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)