

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: P311002

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-CA125-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: P311002
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: 24FCZ2-60HE-UNV-L82765-CA125-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" ACRYLIC 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: 5744.0 lumens
Efficiency: N/A
Efficacy: 115.6 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

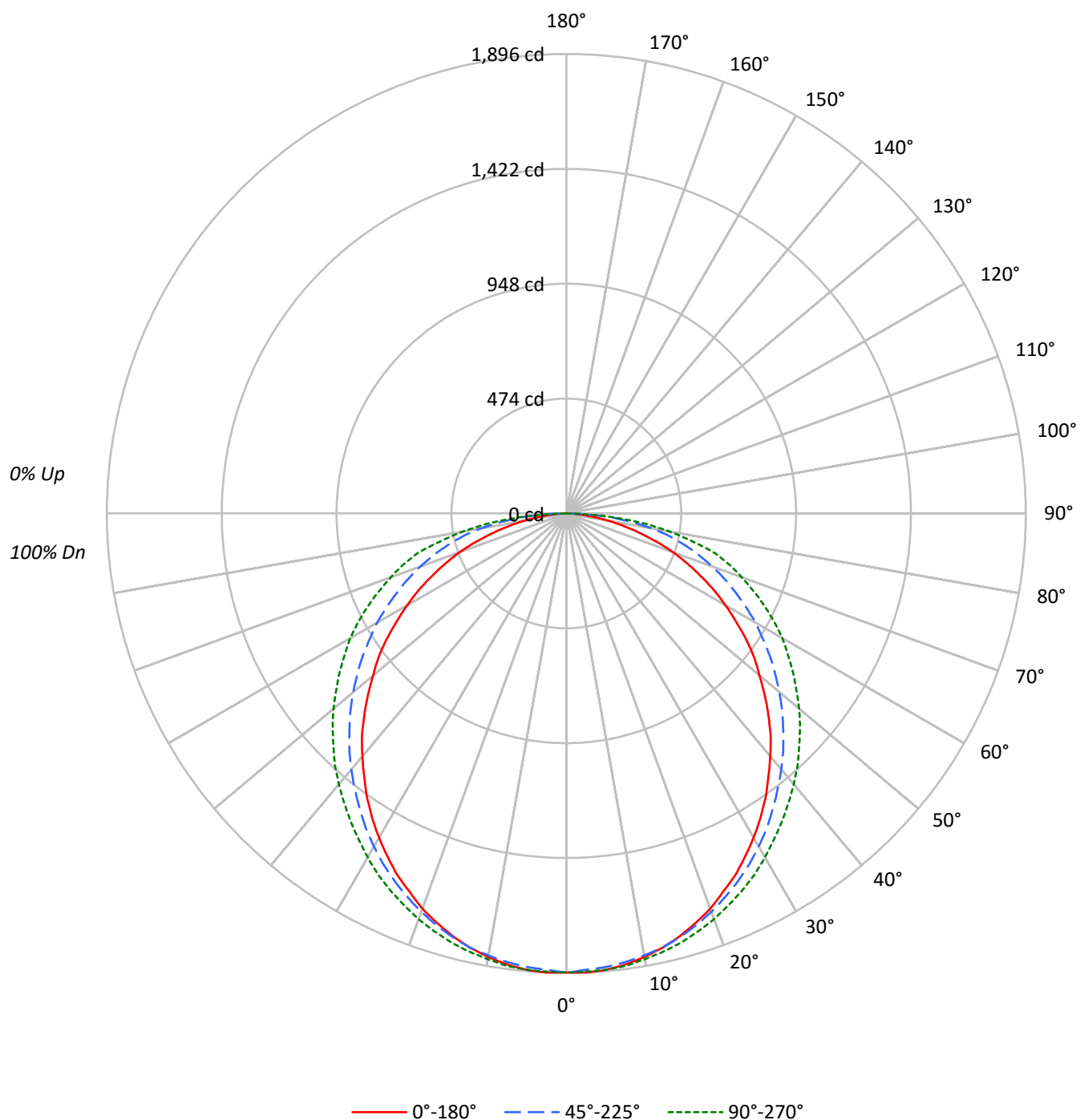
Input Watts (W): 49.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2549	2549	2549
5°	2553	2538	2553
10°	2539	2531	2552
15°	2517	2522	2554
20°	2486	2505	2551
25°	2447	2487	2549
30°	2401	2466	2546
35°	2354	2442	2548
40°	2300	2423	2564
45°	2245	2408	2586
50°	2178	2402	2625
55°	2123	2405	2678
60°	2041	2426	2769
65°	1947	2451	2870
70°	1844	2526	3029
75°	1645	2635	3309
80°	1402	2791	3381
85°	1000	2765	3236



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	179.3	3.1
10°-20°	512.6	8.9
20°-30°	774.3	13.5
30°-40°	933.2	16.2
40°-50°	979.6	17.1
50°-60°	916.5	16.0
60°-70°	756.9	13.2
70°-80°	515.7	9.0
80°-90°	175.9	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°	1466.2	25.5
0°-40°	2399.3	41.8
0°-60°	4295.5	74.8
0°-90°	5744.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5744.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1894	1894	1894	1894	1894	
5°	1890	1889	1879	1890	1890	179
15°	1807	1809	1810	1830	1833	509
25°	1648	1656	1675	1708	1717	758
35°	1433	1448	1486	1536	1551	896
45°	1180	1204	1265	1334	1359	910
55°	905	941	1025	1109	1142	808
65°	612	663	770	867	901	607
75°	316	389	507	602	636	337
85°	65	128	179	202	210	81
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1894.3	1894.3	1894.3	1894.3	1894.3
2.5°	1896.2	1894.3	1884.8	1894.3	1892.4
5°	1890.5	1888.6	1879.1	1890.5	1890.5
7.5°	1877.2	1877.2	1867.6	1881.0	1882.9
10°	1858.1	1858.1	1852.4	1867.6	1867.6
12.5°	1835.2	1835.2	1835.2	1850.5	1852.4
15°	1806.7	1808.6	1810.5	1829.5	1833.3
17.5°	1772.4	1776.2	1781.9	1804.8	1808.6
20°	1736.1	1740.0	1749.5	1776.2	1781.9
22.5°	1690.4	1699.9	1713.3	1743.8	1749.5
25°	1648.5	1656.1	1675.2	1707.6	1717.1
27.5°	1597.0	1608.5	1633.2	1667.5	1680.9
30°	1545.6	1557.0	1587.5	1627.5	1638.9
32.5°	1490.3	1507.5	1539.9	1581.8	1595.1
35°	1433.1	1448.4	1486.5	1536.0	1551.3
37.5°	1370.2	1391.2	1433.1	1486.5	1505.5
40°	1309.3	1332.1	1379.8	1436.9	1459.8
42.5°	1248.3	1271.1	1324.5	1389.3	1412.2
45°	1179.7	1204.4	1265.4	1334.0	1358.8
47.5°	1111.1	1141.5	1208.2	1280.7	1307.3
50°	1040.5	1074.8	1147.3	1223.5	1254.0
52.5°	977.7	1010.1	1086.3	1168.2	1196.8
55°	905.2	941.4	1025.3	1109.1	1141.5
57.5°	830.9	870.9	960.5	1052.0	1084.4
60°	758.5	802.3	901.4	992.9	1029.1
62.5°	688.0	731.8	834.7	930.0	966.2
65°	611.7	663.2	769.9	867.1	901.4
67.5°	539.3	594.6	707.0	802.3	836.6
70°	468.8	522.2	642.2	735.6	769.9
72.5°	392.6	453.6	573.6	670.8	707.0
75°	316.4	388.8	506.9	602.2	636.5
77.5°	245.8	320.2	438.3	516.5	533.6
80°	181.0	257.3	360.2	415.5	436.4
82.5°	116.3	192.5	274.4	314.4	331.6
85°	64.8	127.7	179.1	202.0	209.6
87.5°	26.7	55.3	72.4	81.9	81.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)