

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: P311704

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-S-CP250-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: P311704
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
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-S-CP250-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" 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: 5621.0 lumens
Efficiency: N/A
Efficacy: 113.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

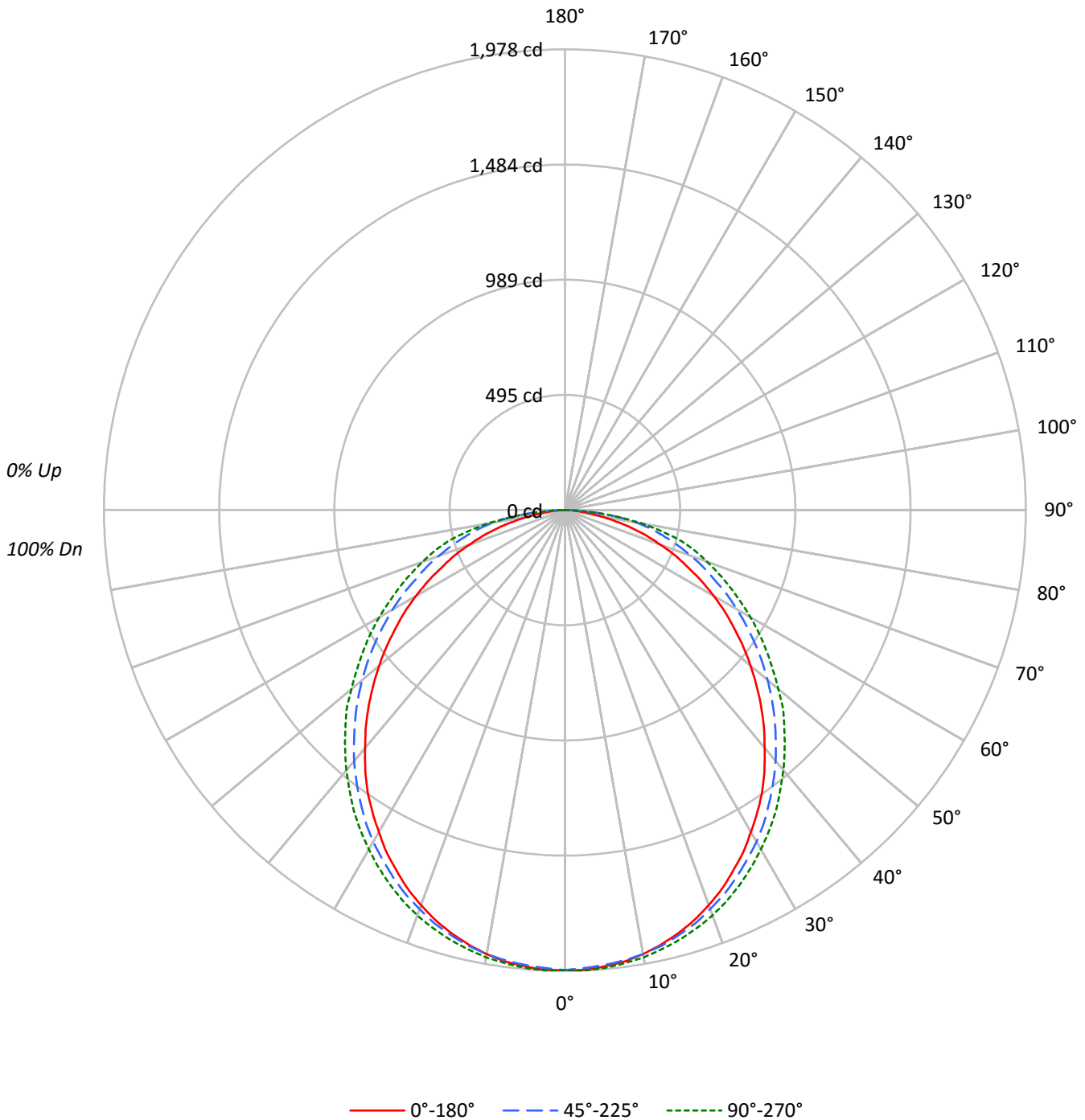
Input Watts (W): 49.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2657	2657	2657
5°	2655	2648	2665
10°	2644	2644	2664
15°	2619	2631	2659
20°	2585	2610	2651
25°	2537	2584	2635
30°	2480	2555	2613
35°	2425	2513	2592
40°	2343	2471	2562
45°	2266	2422	2534
50°	2179	2377	2504
55°	2082	2333	2479
60°	1984	2296	2474
65°	1859	2257	2490
70°	1721	2269	2557
75°	1541	2311	2701
80°	1245	2448	2642
85°	937	2150	2095



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	186.9	3.3
10°-20°	534.2	9.5
20°-30°	803.0	14.3
30°-40°	956.5	17.0
40°-50°	978.9	17.4
50°-60°	881.3	15.7
60°-70°	692.1	12.3
70°-80°	449.2	8.0
80°-90°	138.9	2.5
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°	1524.1	27.1
0°-40°	2480.6	44.1
0°-60°	4340.8	77.2
0°-90°	5621.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5621.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1975	1975	1975	1975	1975	
5°	1966	1969	1960	1971	1973	187
15°	1880	1885	1889	1905	1909	530
25°	1709	1723	1741	1769	1775	787
35°	1477	1494	1530	1568	1578	921
45°	1191	1220	1273	1321	1332	918
55°	887	927	994	1046	1057	796
65°	584	628	709	768	782	581
75°	296	354	445	505	520	314
85°	61	112	139	136	136	73
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1974.7	1974.7	1974.7	1974.7	1974.7
2.5°	1976.5	1976.5	1967.6	1976.5	1978.3
5°	1965.8	1969.3	1960.4	1971.1	1972.9
7.5°	1955.1	1955.1	1949.7	1960.4	1962.2
10°	1935.4	1937.2	1935.4	1947.9	1949.7
12.5°	1910.4	1914.0	1915.8	1928.3	1930.1
15°	1880.1	1885.4	1889.0	1905.1	1908.6
17.5°	1846.1	1851.5	1860.4	1878.3	1881.9
20°	1805.1	1812.2	1822.9	1846.1	1851.5
22.5°	1760.4	1767.6	1785.4	1806.9	1815.8
25°	1708.7	1722.9	1740.8	1769.4	1774.7
27.5°	1656.9	1669.4	1692.6	1722.9	1730.1
30°	1596.2	1615.8	1644.4	1674.7	1681.9
32.5°	1537.3	1556.9	1590.8	1623.0	1631.9
35°	1476.6	1494.4	1530.1	1567.6	1578.3
37.5°	1406.9	1430.1	1469.4	1506.9	1517.6
40°	1333.7	1362.3	1406.9	1446.2	1458.7
42.5°	1264.1	1294.4	1339.1	1381.9	1396.2
45°	1190.9	1219.5	1273.0	1321.2	1331.9
47.5°	1115.9	1148.0	1205.2	1253.4	1271.2
50°	1040.9	1074.8	1135.5	1185.5	1196.2
52.5°	965.9	1001.6	1065.9	1119.5	1124.8
55°	887.4	926.6	994.5	1046.3	1057.0
57.5°	815.9	849.9	923.1	976.6	989.1
60°	737.4	774.9	853.4	903.4	919.5
62.5°	662.4	701.7	783.8	833.8	848.1
65°	583.8	628.5	708.8	767.7	782.0
67.5°	516.0	558.8	644.5	701.7	716.0
70°	437.4	485.6	576.7	635.6	649.9
72.5°	369.6	419.6	510.6	567.8	589.2
75°	296.4	353.5	444.6	505.3	519.6
77.5°	225.0	291.0	383.9	430.3	430.3
80°	160.7	230.3	316.0	337.4	341.0
82.5°	105.3	173.2	233.9	232.1	232.1
85°	60.7	112.5	139.3	135.7	135.7
87.5°	23.2	46.4	50.0	50.0	48.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)