

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: P311025

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-CP250-W2A-U-4500K**

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: P311025
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-CP250-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 4500K 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: 5200.0 lumens
Efficiency: N/A
Efficacy: 107.2 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

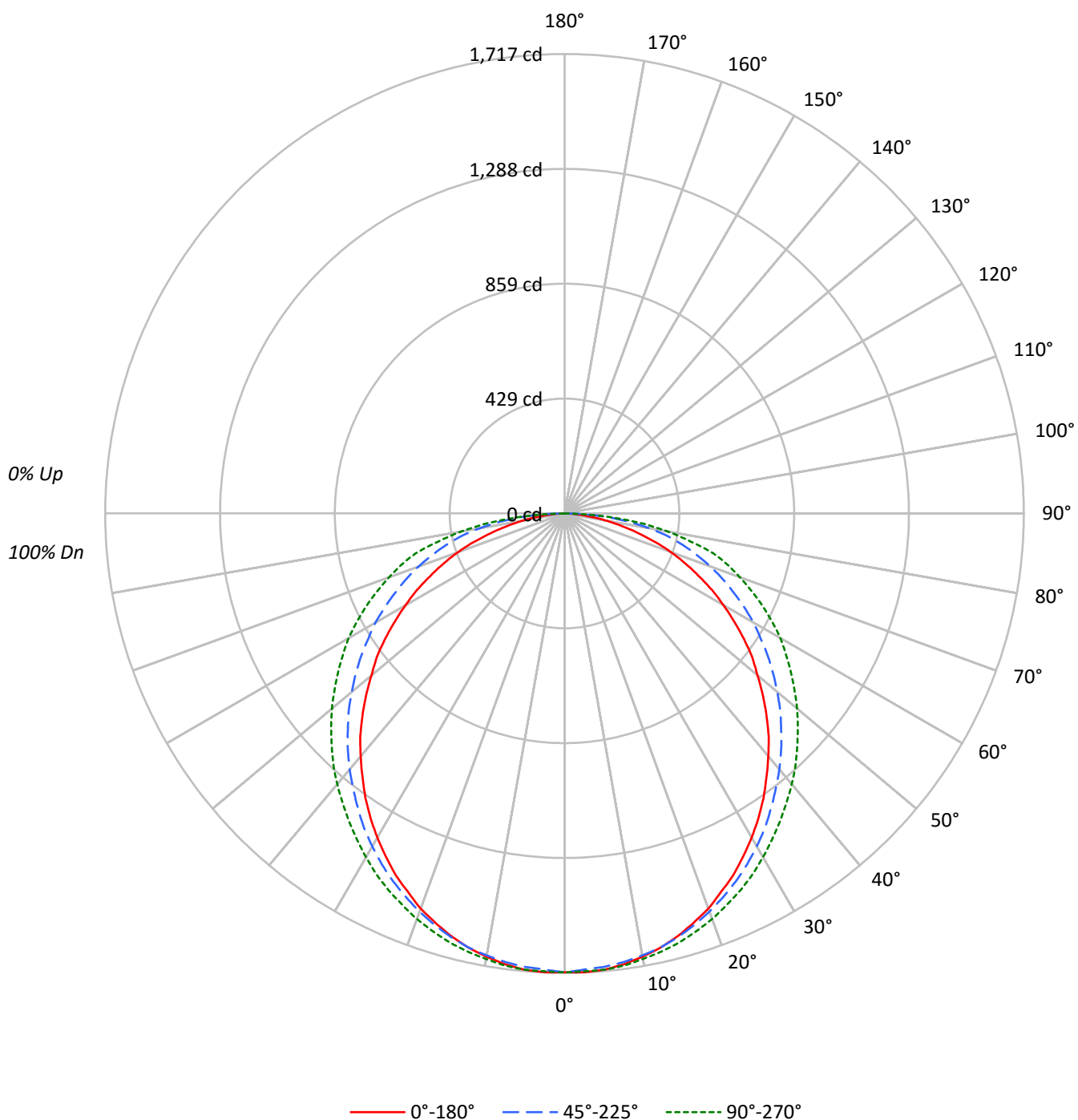
Input Watts (W): 48.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2307	2307	2307
5°	2312	2298	2312
10°	2298	2291	2310
15°	2278	2283	2312
20°	2250	2268	2310
25°	2216	2251	2308
30°	2174	2233	2305
35°	2131	2210	2307
40°	2082	2194	2321
45°	2032	2180	2341
50°	1972	2174	2376
55°	1922	2177	2424
60°	1848	2196	2507
65°	1763	2219	2598
70°	1670	2287	2742
75°	1489	2386	2995
80°	1270	2527	3061
85°	906	2504	2930



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.3	3.1
10°-20°	464.1	8.9
20°-30°	700.9	13.5
30°-40°	844.8	16.2
40°-50°	886.9	17.1
50°-60°	829.7	16.0
60°-70°	685.2	13.2
70°-80°	466.9	9.0
80°-90°	159.2	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°	1327.3	25.5
0°-40°	2172.1	41.8
0°-60°	3888.7	74.8
0°-90°	5200.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5200.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1715	1715	1715	1715	1715	
5°	1712	1710	1701	1712	1712	162
15°	1636	1637	1639	1656	1660	461
25°	1492	1499	1516	1546	1554	687
35°	1297	1311	1346	1391	1404	811
45°	1068	1090	1146	1208	1230	824
55°	820	852	928	1004	1033	731
65°	554	600	697	785	816	549
75°	286	352	459	545	576	305
85°	59	116	162	183	190	73
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1714.9	1714.9	1714.9	1714.9	1714.9
2.5°	1716.6	1714.9	1706.3	1714.9	1713.2
5°	1711.5	1709.7	1701.1	1711.5	1711.5
7.5°	1699.4	1699.4	1690.8	1702.8	1704.6
10°	1682.1	1682.1	1677.0	1690.8	1690.8
12.5°	1661.4	1661.4	1661.4	1675.2	1677.0
15°	1635.6	1637.3	1639.0	1656.3	1659.7
17.5°	1604.5	1607.9	1613.1	1633.8	1637.3
20°	1571.7	1575.2	1583.8	1607.9	1613.1
22.5°	1530.3	1538.9	1551.0	1578.6	1583.8
25°	1492.4	1499.3	1516.5	1545.8	1554.5
27.5°	1445.8	1456.1	1478.6	1509.6	1521.7
30°	1399.2	1409.5	1437.1	1473.4	1483.7
32.5°	1349.2	1364.7	1394.0	1432.0	1444.0
35°	1297.4	1311.2	1345.7	1390.6	1404.4
37.5°	1240.5	1259.4	1297.4	1345.7	1363.0
40°	1185.3	1206.0	1249.1	1300.9	1321.6
42.5°	1130.0	1150.8	1199.1	1257.7	1278.4
45°	1067.9	1090.4	1145.6	1207.7	1230.1
47.5°	1005.8	1033.4	1093.8	1159.4	1183.5
50°	942.0	973.1	1038.6	1107.6	1135.2
52.5°	885.1	914.4	983.4	1057.6	1083.5
55°	819.5	852.3	928.2	1004.1	1033.4
57.5°	752.2	788.4	869.5	952.3	981.7
60°	686.7	726.3	816.1	898.9	931.6
62.5°	622.8	662.5	755.7	841.9	874.7
65°	553.8	600.4	697.0	785.0	816.1
67.5°	488.3	538.3	640.1	726.3	757.4
70°	424.4	472.7	581.4	666.0	697.0
72.5°	355.4	410.6	519.3	607.3	640.1
75°	286.4	352.0	458.9	545.2	576.2
77.5°	222.6	289.8	396.8	467.5	483.1
80°	163.9	232.9	326.1	376.1	395.1
82.5°	105.2	174.3	248.4	284.7	300.2
85°	58.7	115.6	162.2	182.9	189.8
87.5°	24.2	50.0	65.6	74.2	74.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)