

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: P311697

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-S-CP250-W2A-U-3000K**

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: P311697
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-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (336) 3000K 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: 5077.0 lumens
Efficiency: N/A
Efficacy: 107.3 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

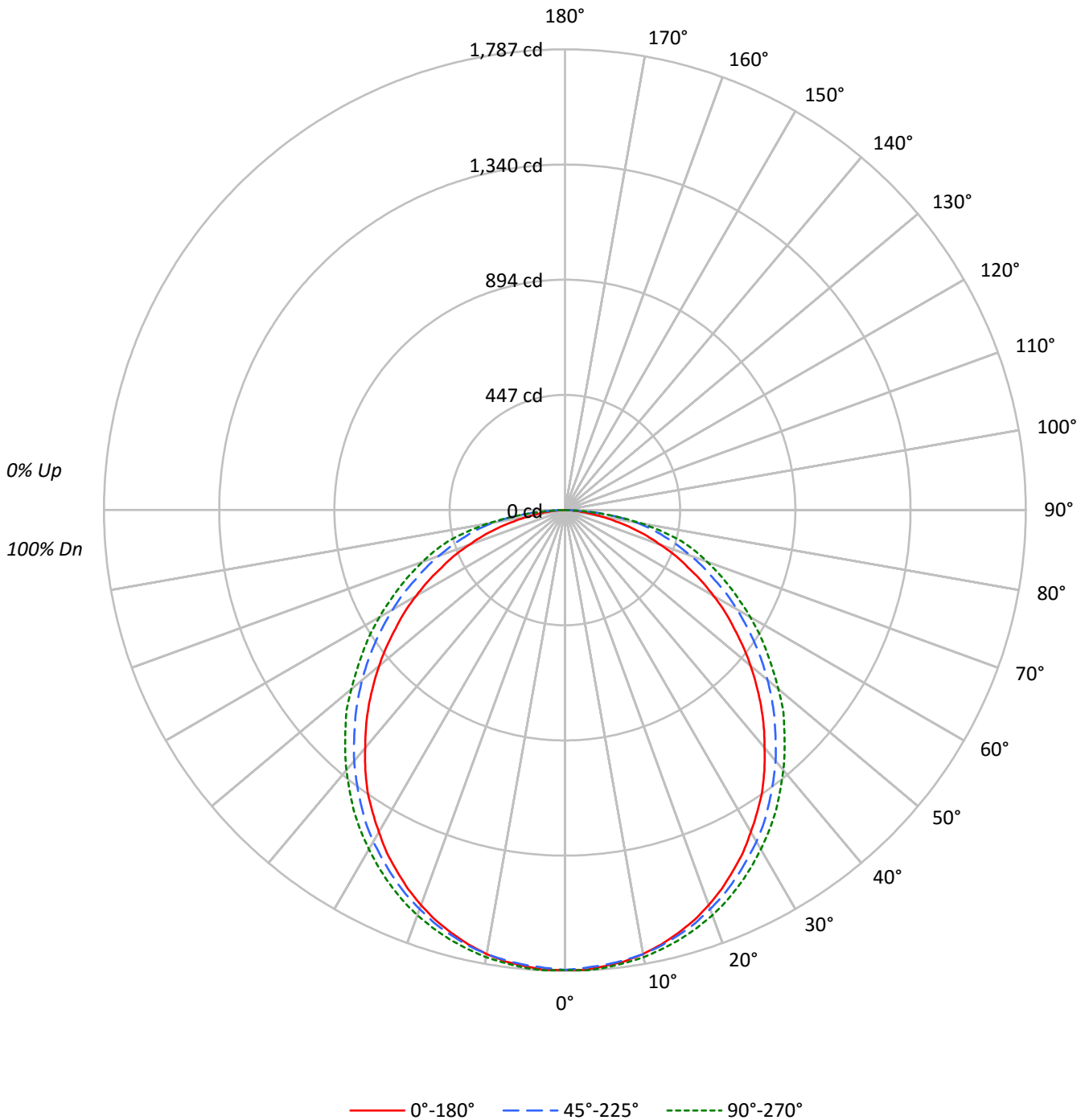
Input Watts (W): 47.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2400	2400	2400
5°	2398	2392	2407
10°	2388	2388	2406
15°	2365	2377	2401
20°	2334	2358	2394
25°	2291	2334	2380
30°	2240	2307	2360
35°	2191	2270	2342
40°	2116	2232	2314
45°	2047	2188	2289
50°	1968	2147	2262
55°	1880	2107	2240
60°	1792	2074	2235
65°	1679	2038	2249
70°	1554	2049	2309
75°	1392	2087	2440
80°	1124	2211	2386
85°	846	1942	1893



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	168.9	3.3
10°-20°	482.5	9.5
20°-30°	725.3	14.3
30°-40°	863.9	17.0
40°-50°	884.2	17.4
50°-60°	796.0	15.7
60°-70°	625.1	12.3
70°-80°	405.7	8.0
80°-90°	125.5	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°	1376.6	27.1
0°-40°	2240.5	44.1
0°-60°	3920.7	77.2
0°-90°	5077.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5077.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1784	1784	1784	1784	1784	
5°	1776	1779	1771	1780	1782	169
15°	1698	1703	1706	1721	1724	479
25°	1543	1556	1572	1598	1603	711
35°	1334	1350	1382	1416	1426	832
45°	1076	1101	1150	1193	1203	829
55°	802	837	898	945	955	719
65°	527	568	640	693	706	525
75°	268	319	402	456	469	283
85°	55	102	126	123	123	66
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1783.6	1783.6	1783.6	1783.6	1783.6
2.5°	1785.2	1785.2	1777.1	1785.2	1786.8
5°	1775.5	1778.7	1770.7	1780.4	1782.0
7.5°	1765.8	1765.8	1761.0	1770.7	1772.3
10°	1748.1	1749.7	1748.1	1759.4	1761.0
12.5°	1725.5	1728.8	1730.4	1741.7	1743.3
15°	1698.1	1703.0	1706.2	1720.7	1723.9
17.5°	1667.5	1672.3	1680.4	1696.5	1699.7
20°	1630.4	1636.8	1646.5	1667.5	1672.3
22.5°	1590.1	1596.5	1612.6	1632.0	1640.1
25°	1543.3	1556.2	1572.3	1598.1	1603.0
27.5°	1496.5	1507.8	1528.8	1556.2	1562.7
30°	1441.7	1459.4	1485.2	1512.7	1519.1
32.5°	1388.5	1406.2	1436.9	1465.9	1474.0
35°	1333.7	1349.8	1382.0	1415.9	1425.6
37.5°	1270.8	1291.7	1327.2	1361.1	1370.7
40°	1204.6	1230.4	1270.8	1306.2	1317.5
42.5°	1141.8	1169.2	1209.5	1248.2	1261.1
45°	1075.6	1101.4	1149.8	1193.4	1203.0
47.5°	1007.9	1036.9	1088.5	1132.1	1148.2
50°	940.2	970.8	1025.6	1070.8	1080.5
52.5°	872.4	904.7	962.7	1011.1	1016.0
55°	801.5	837.0	898.2	945.0	954.7
57.5°	737.0	767.6	833.7	882.1	893.4
60°	666.0	699.9	770.8	816.0	830.5
62.5°	598.3	633.8	708.0	753.1	766.0
65°	527.3	567.7	640.2	693.4	706.3
67.5°	466.1	504.8	582.2	633.8	646.7
70°	395.1	438.6	520.9	574.1	587.0
72.5°	333.8	379.0	461.2	512.8	532.2
75°	267.7	319.3	401.5	456.4	469.3
77.5°	203.2	262.9	346.7	388.6	388.6
80°	145.1	208.0	285.4	304.8	308.0
82.5°	95.1	156.4	211.3	209.6	209.6
85°	54.8	101.6	125.8	122.6	122.6
87.5°	21.0	41.9	45.2	45.2	43.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)