

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: P311678

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-S-CP125-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: P311678
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-CP125-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" POLYCARB 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: 5195.0 lumens
Efficiency: N/A
Efficacy: 109.1 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

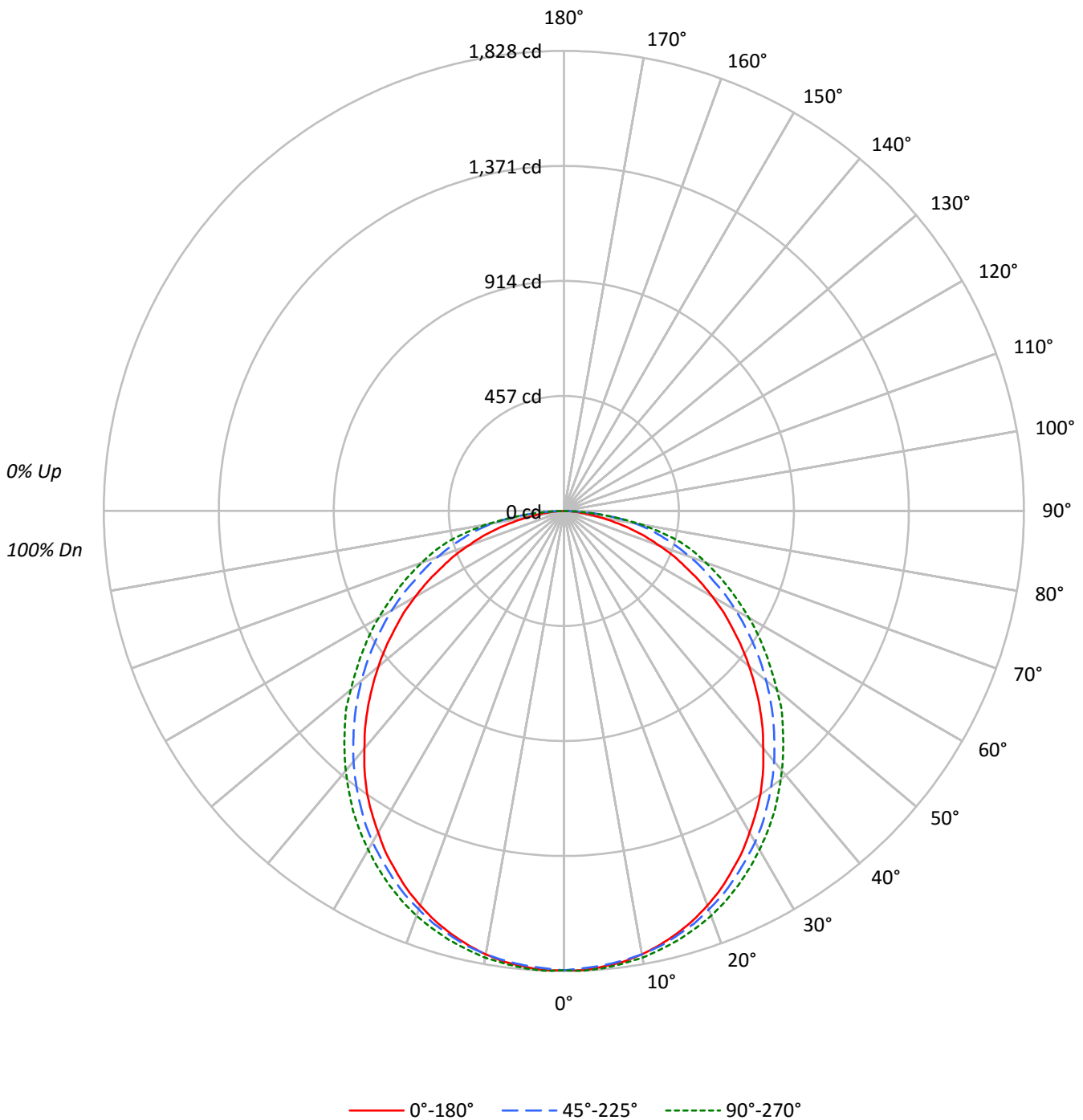
Input Watts (W): 47.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2456	2456	2456
5°	2454	2447	2463
10°	2444	2444	2462
15°	2420	2432	2457
20°	2389	2412	2450
25°	2344	2389	2435
30°	2292	2361	2415
35°	2242	2323	2396
40°	2165	2284	2368
45°	2094	2239	2342
50°	2014	2197	2314
55°	1924	2156	2292
60°	1834	2123	2287
65°	1718	2086	2301
70°	1590	2097	2363
75°	1424	2136	2496
80°	1151	2263	2442
85°	866	1987	1936



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.8	3.3
10°-20°	493.7	9.5
20°-30°	742.1	14.3
30°-40°	884.0	17.0
40°-50°	904.7	17.4
50°-60°	814.5	15.7
60°-70°	639.7	12.3
70°-80°	415.1	8.0
80°-90°	128.4	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°	1408.6	27.1
0°-40°	2292.6	44.1
0°-60°	4011.8	77.2
0°-90°	5195.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5195.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1825	1825	1825	1825	1825	
5°	1817	1820	1812	1822	1823	173
15°	1738	1742	1746	1761	1764	490
25°	1579	1592	1609	1635	1640	727
35°	1365	1381	1414	1449	1459	851
45°	1101	1127	1176	1221	1231	849
55°	820	856	919	967	977	735
65°	540	581	655	710	723	537
75°	274	327	411	467	480	290
85°	56	104	129	125	125	68
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1825.0	1825.0	1825.0	1825.0	1825.0
2.5°	1826.7	1826.7	1818.4	1826.7	1828.3
5°	1816.8	1820.1	1811.8	1821.7	1823.4
7.5°	1806.9	1806.9	1801.9	1811.8	1813.5
10°	1788.7	1790.4	1788.7	1800.3	1801.9
12.5°	1765.6	1768.9	1770.6	1782.1	1783.8
15°	1737.6	1742.5	1745.8	1760.7	1764.0
17.5°	1706.2	1711.2	1719.4	1735.9	1739.2
20°	1668.3	1674.9	1684.8	1706.2	1711.2
22.5°	1627.0	1633.6	1650.1	1669.9	1678.2
25°	1579.2	1592.4	1608.9	1635.3	1640.2
27.5°	1531.3	1542.9	1564.3	1592.4	1599.0
30°	1475.2	1493.4	1519.8	1547.8	1554.4
32.5°	1420.8	1438.9	1470.3	1500.0	1508.2
35°	1364.7	1381.2	1414.2	1448.8	1458.7
37.5°	1300.3	1321.7	1358.1	1392.7	1402.6
40°	1232.6	1259.0	1300.3	1336.6	1348.2
42.5°	1168.3	1196.3	1237.6	1277.2	1290.4
45°	1100.6	1127.0	1176.5	1221.1	1231.0
47.5°	1031.3	1061.0	1113.8	1158.4	1174.9
50°	962.0	993.4	1049.5	1095.7	1105.6
52.5°	892.7	925.7	985.1	1034.6	1039.6
55°	820.1	856.4	919.1	967.0	976.9
57.5°	754.1	785.5	853.1	902.6	914.2
60°	681.5	716.2	788.8	835.0	849.8
62.5°	612.2	648.5	724.4	770.6	783.8
65°	539.6	580.8	655.1	709.6	722.8
67.5°	476.9	516.5	595.7	648.5	661.7
70°	404.3	448.8	533.0	587.4	600.6
72.5°	341.6	387.8	471.9	524.7	544.5
75°	273.9	326.7	410.9	467.0	480.2
77.5°	207.9	269.0	354.8	397.7	397.7
80°	148.5	212.9	292.1	311.9	315.2
82.5°	97.4	160.1	216.2	214.5	214.5
85°	56.1	104.0	128.7	125.4	125.4
87.5°	21.5	42.9	46.2	46.2	44.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)