

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: P311007

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-CP125-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: P311007
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-CP125-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" 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: 5474.0 lumens
Efficiency: N/A
Efficacy: 112.9 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

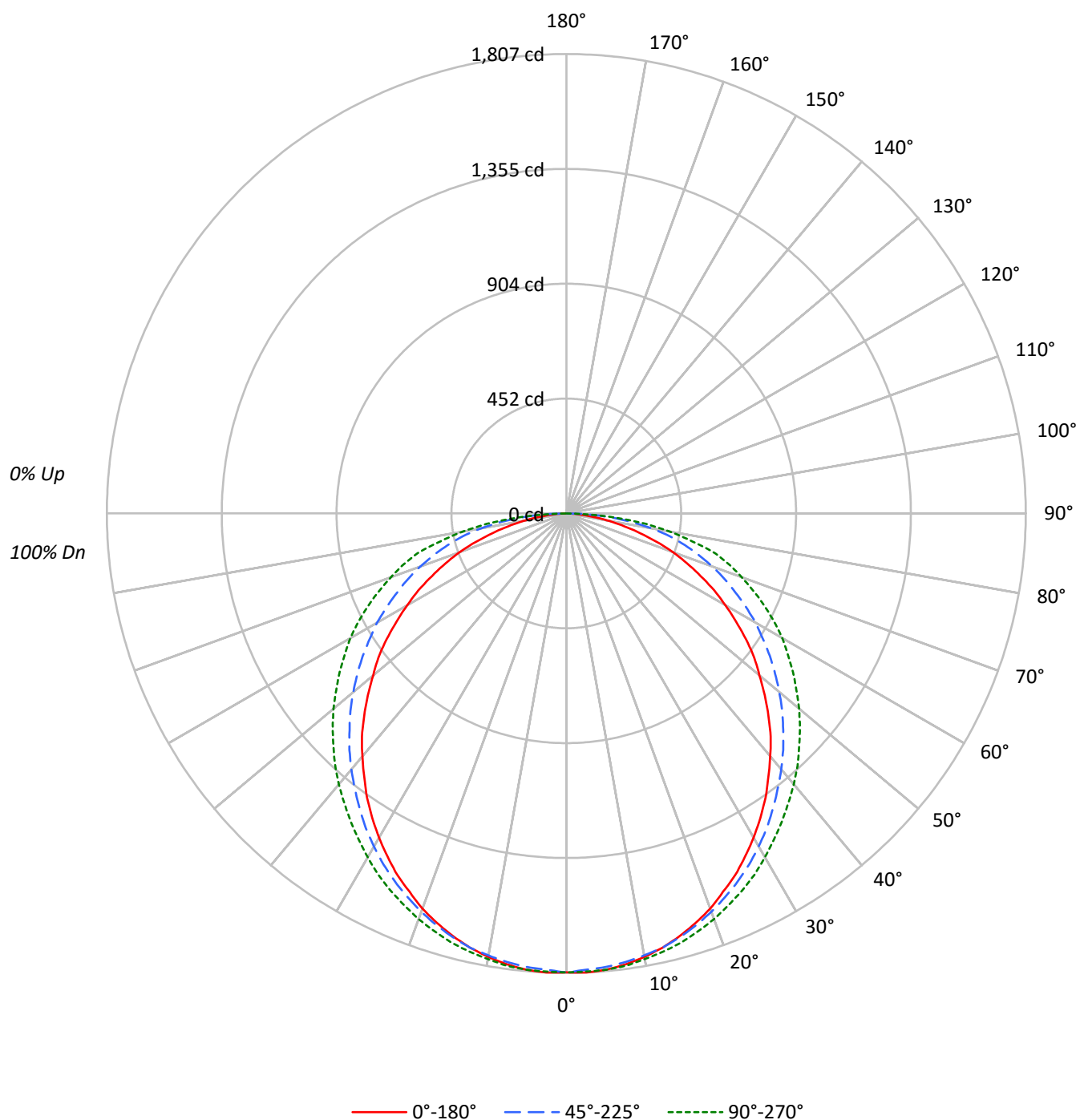
Input Watts (W): 48.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2429	2429	2429
5°	2433	2419	2433
10°	2419	2412	2432
15°	2398	2403	2434
20°	2369	2387	2431
25°	2332	2370	2429
30°	2288	2350	2427
35°	2243	2327	2428
40°	2191	2310	2444
45°	2139	2295	2464
50°	2076	2289	2501
55°	2024	2292	2552
60°	1945	2312	2639
65°	1856	2336	2735
70°	1758	2408	2886
75°	1567	2511	3153
80°	1337	2660	3223
85°	953	2635	3084



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	170.8	3.1
10°-20°	488.5	8.9
20°-30°	737.9	13.5
30°-40°	889.3	16.2
40°-50°	933.6	17.1
50°-60°	873.4	16.0
60°-70°	721.3	13.2
70°-80°	491.5	9.0
80°-90°	167.6	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°	1397.2	25.5
0°-40°	2286.5	41.8
0°-60°	4093.6	74.8
0°-90°	5474.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5474.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1805	1805	1805	1805	1805	
5°	1802	1800	1791	1802	1802	171
15°	1722	1724	1725	1744	1747	485
25°	1571	1578	1596	1627	1636	723
35°	1366	1380	1417	1464	1478	853
45°	1124	1148	1206	1271	1295	867
55°	863	897	977	1057	1088	770
65°	583	632	734	826	859	578
75°	302	370	483	574	607	321
85°	62	122	171	192	200	77
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1805.3	1805.3	1805.3	1805.3	1805.3
2.5°	1807.1	1805.3	1796.2	1805.3	1803.5
5°	1801.6	1799.8	1790.7	1801.6	1801.6
7.5°	1788.9	1788.9	1779.9	1792.6	1794.4
10°	1770.8	1770.8	1765.3	1779.9	1779.9
12.5°	1749.0	1749.0	1749.0	1763.5	1765.3
15°	1721.7	1723.5	1725.4	1743.5	1747.2
17.5°	1689.0	1692.7	1698.1	1719.9	1723.5
20°	1654.5	1658.2	1667.2	1692.7	1698.1
22.5°	1610.9	1620.0	1632.7	1661.8	1667.2
25°	1571.0	1578.3	1596.4	1627.3	1636.4
27.5°	1522.0	1532.9	1556.5	1589.2	1601.9
30°	1472.9	1483.8	1512.9	1551.0	1561.9
32.5°	1420.2	1436.6	1467.5	1507.4	1520.1
35°	1365.8	1380.3	1416.6	1463.8	1478.4
37.5°	1305.8	1325.8	1365.8	1416.6	1434.8
40°	1247.7	1269.5	1314.9	1369.4	1391.2
42.5°	1189.6	1211.4	1262.2	1324.0	1345.8
45°	1124.2	1147.8	1205.9	1271.3	1294.9
47.5°	1058.8	1087.9	1151.5	1220.5	1245.9
50°	991.6	1024.3	1093.3	1166.0	1195.0
52.5°	931.7	962.6	1035.2	1113.3	1140.6
55°	862.7	897.2	977.1	1057.0	1087.9
57.5°	791.9	830.0	915.4	1002.5	1033.4
60°	722.8	764.6	859.1	946.2	980.7
62.5°	655.6	697.4	795.5	886.3	920.8
65°	583.0	632.0	733.7	826.4	859.1
67.5°	514.0	566.6	673.8	764.6	797.3
70°	446.8	497.6	612.1	701.0	733.7
72.5°	374.1	432.2	546.7	639.3	673.8
75°	301.5	370.5	483.1	573.9	606.6
77.5°	234.3	305.1	417.7	492.2	508.5
80°	172.5	245.2	343.3	395.9	415.9
82.5°	110.8	183.4	261.5	299.7	316.0
85°	61.7	121.7	170.7	192.5	199.8
87.5°	25.4	52.7	69.0	78.1	78.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)