

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: P311093

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-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: P311093
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: 24FCZ2-70HE-UNV-L82765-CP125-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, RIBBED 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: 5780.0 lumens
Efficiency: N/A
Efficacy: 100.2 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

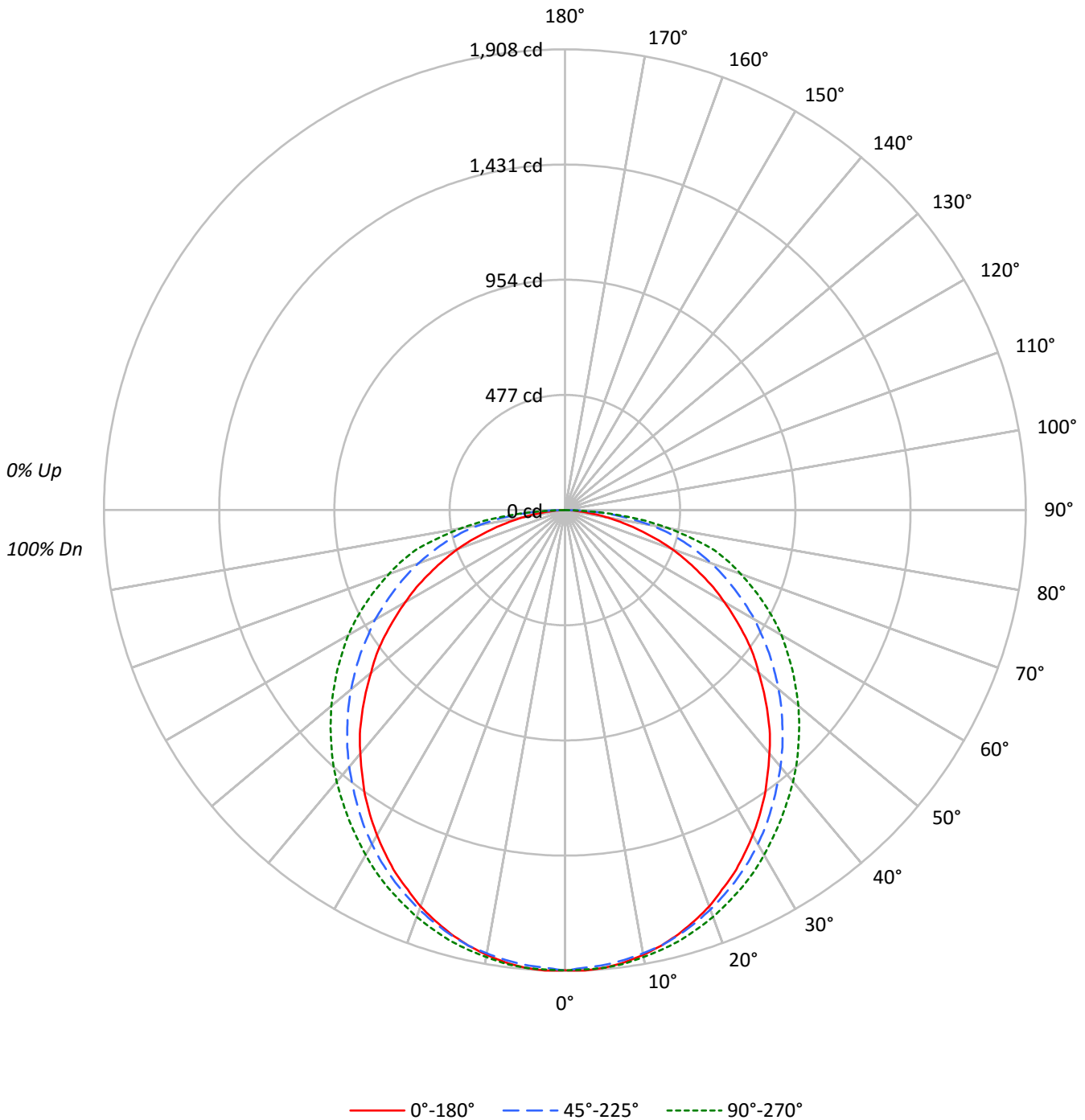
Input Watts (W): 57.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2565	2565	2565
5°	2569	2554	2569
10°	2555	2547	2568
15°	2532	2538	2570
20°	2501	2521	2567
25°	2463	2503	2565
30°	2416	2482	2562
35°	2369	2457	2564
40°	2314	2439	2580
45°	2259	2423	2602
50°	2192	2417	2641
55°	2137	2420	2695
60°	2054	2441	2787
65°	1960	2467	2888
70°	1856	2543	3048
75°	1655	2652	3330
80°	1412	2808	3403
85°	1007	2783	3256



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	180.4	3.1
10°-20°	515.8	8.9
20°-30°	779.1	13.5
30°-40°	939.0	16.2
40°-50°	985.8	17.1
50°-60°	922.3	16.0
60°-70°	761.6	13.2
70°-80°	519.0	9.0
80°-90°	177.0	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°	1475.3	25.5
0°-40°	2414.3	41.8
0°-60°	4322.4	74.8
0°-90°	5780.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5780.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1906	1906	1906	1906	1906	
5°	1902	1900	1891	1902	1902	181
15°	1818	1820	1822	1841	1845	512
25°	1659	1666	1686	1718	1728	763
35°	1442	1458	1496	1546	1561	901
45°	1187	1212	1273	1342	1367	916
55°	911	947	1032	1116	1149	813
65°	616	667	775	873	907	611
75°	318	391	510	606	640	339
85°	65	128	180	203	211	82
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1906.2	1906.2	1906.2	1906.2	1906.2
2.5°	1908.1	1906.2	1896.6	1906.2	1904.3
5°	1902.4	1900.4	1890.9	1902.4	1902.4
7.5°	1888.9	1888.9	1879.3	1892.8	1894.7
10°	1869.8	1869.8	1864.0	1879.3	1879.3
12.5°	1846.7	1846.7	1846.7	1862.1	1864.0
15°	1818.0	1819.9	1821.8	1841.0	1844.8
17.5°	1783.5	1787.3	1793.0	1816.1	1819.9
20°	1747.0	1750.9	1760.4	1787.3	1793.0
22.5°	1701.0	1710.6	1724.0	1754.7	1760.4
25°	1658.8	1666.5	1685.7	1718.3	1727.8
27.5°	1607.0	1618.5	1643.5	1678.0	1691.4
30°	1555.3	1566.8	1597.4	1637.7	1649.2
32.5°	1499.6	1516.9	1549.5	1591.7	1605.1
35°	1442.1	1457.5	1495.8	1545.7	1561.0
37.5°	1378.8	1399.9	1442.1	1495.8	1515.0
40°	1317.5	1340.5	1388.4	1445.9	1469.0
42.5°	1256.1	1279.1	1332.8	1398.0	1421.0
45°	1187.1	1212.0	1273.4	1342.4	1367.3
47.5°	1118.0	1148.7	1215.8	1288.7	1315.5
50°	1047.1	1081.6	1154.5	1231.2	1261.8
52.5°	983.8	1016.4	1093.1	1175.6	1204.3
55°	910.9	947.3	1031.7	1116.1	1148.7
57.5°	836.1	876.4	966.5	1058.6	1091.2
60°	763.2	807.4	907.1	999.1	1035.6
62.5°	692.3	736.4	840.0	935.8	972.3
65°	615.6	667.4	774.8	872.6	907.1
67.5°	542.7	598.3	711.5	807.4	841.9
70°	471.8	525.4	646.3	740.2	774.8
72.5°	395.0	456.4	577.2	675.0	711.5
75°	318.3	391.2	510.1	606.0	640.5
77.5°	247.4	322.2	441.1	519.7	537.0
80°	182.2	258.9	362.4	418.1	439.2
82.5°	117.0	193.7	276.1	316.4	333.7
85°	65.2	128.5	180.3	203.3	210.9
87.5°	26.8	55.6	72.9	82.5	82.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)