

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: P314111

Luminaire Tested: **24FCZ2-65HE-UNV-L83050-CP250-W2A-U-3500K**

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: P314111
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: 24FCZ2-65HE-UNV-L83050-CP250-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 3500K 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: 5546.0 lumens
Efficiency: N/A
Efficacy: 105.4 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

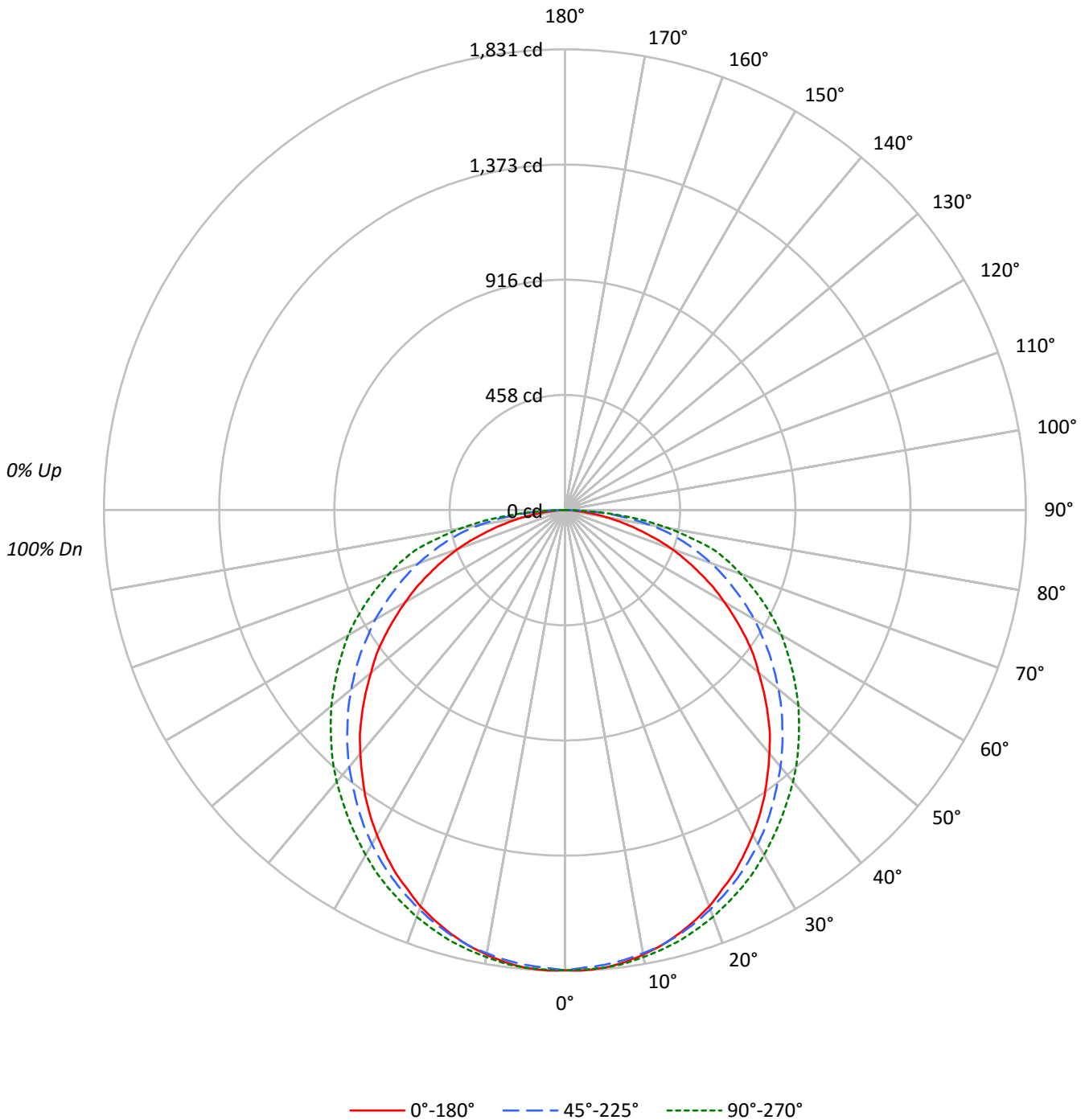
Input Watts (W): 52.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	2461	2461	2461
5°	2465	2450	2465
10°	2451	2444	2464
15°	2430	2435	2466
20°	2400	2419	2463
25°	2363	2401	2461
30°	2318	2381	2459
35°	2273	2357	2460
40°	2220	2340	2476
45°	2167	2325	2496
50°	2103	2319	2534
55°	2050	2322	2586
60°	1971	2342	2674
65°	1881	2367	2771
70°	1781	2439	2924
75°	1588	2545	3195
80°	1354	2695	3265
85°	966	2671	3125



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	173.1	3.1
10°-20°	494.9	8.9
20°-30°	747.6	13.5
30°-40°	901.0	16.2
40°-50°	945.9	17.1
50°-60°	884.9	16.0
60°-70°	730.8	13.2
70°-80°	498.0	9.0
80°-90°	169.8	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°	1415.6	25.5
0°-40°	2316.6	41.8
0°-60°	4147.4	74.8
0°-90°	5546.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5546.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1829	1829	1829	1829	1829	
5°	1825	1824	1814	1825	1825	173
15°	1744	1746	1748	1766	1770	492
25°	1592	1599	1617	1649	1658	732
35°	1384	1398	1435	1483	1498	865
45°	1139	1163	1222	1288	1312	878
55°	874	909	990	1071	1102	780
65°	591	640	743	837	870	586
75°	306	375	490	582	615	326
85°	63	123	173	195	202	78
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1829.0	1829.0	1829.0	1829.0	1829.0
2.5°	1830.9	1829.0	1819.8	1829.0	1827.2
5°	1825.3	1823.5	1814.3	1825.3	1825.3
7.5°	1812.5	1812.5	1803.3	1816.1	1818.0
10°	1794.1	1794.1	1788.5	1803.3	1803.3
12.5°	1772.0	1772.0	1772.0	1786.7	1788.5
15°	1744.4	1746.2	1748.1	1766.5	1770.1
17.5°	1711.3	1714.9	1720.5	1742.5	1746.2
20°	1676.3	1680.0	1689.2	1714.9	1720.5
22.5°	1632.1	1641.3	1654.2	1683.7	1689.2
25°	1591.7	1599.0	1617.4	1648.7	1657.9
27.5°	1542.0	1553.0	1576.9	1610.1	1622.9
30°	1492.3	1503.3	1532.8	1571.4	1582.5
32.5°	1438.9	1455.5	1486.8	1527.3	1540.1
35°	1383.7	1398.4	1435.2	1483.1	1497.8
37.5°	1323.0	1343.2	1383.7	1435.2	1453.6
40°	1264.1	1286.2	1332.2	1387.4	1409.5
42.5°	1205.2	1227.3	1278.8	1341.4	1363.5
45°	1139.0	1162.9	1221.8	1288.0	1312.0
47.5°	1072.8	1102.2	1166.6	1236.5	1262.3
50°	1004.7	1037.8	1107.7	1181.3	1210.8
52.5°	944.0	975.2	1048.8	1128.0	1155.6
55°	874.0	909.0	990.0	1070.9	1102.2
57.5°	802.3	840.9	927.4	1015.7	1047.0
60°	732.3	774.7	870.3	958.7	993.6
62.5°	664.3	706.6	805.9	898.0	932.9
65°	590.7	640.3	743.4	837.2	870.3
67.5°	520.7	574.1	682.7	774.7	807.8
70°	452.7	504.2	620.1	710.3	743.4
72.5°	379.1	437.9	553.9	647.7	682.7
75°	305.5	375.4	489.5	581.5	614.6
77.5°	237.4	309.1	423.2	498.7	515.2
80°	174.8	248.4	347.8	401.1	421.4
82.5°	112.2	185.8	265.0	303.6	320.2
85°	62.6	123.3	173.0	195.0	202.4
87.5°	25.8	53.4	69.9	79.1	79.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)