

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: P311070

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-CP250-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: P311070
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-L82765-CP250-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" 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: 5634.0 lumens
Efficiency: N/A
Efficacy: 105.1 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

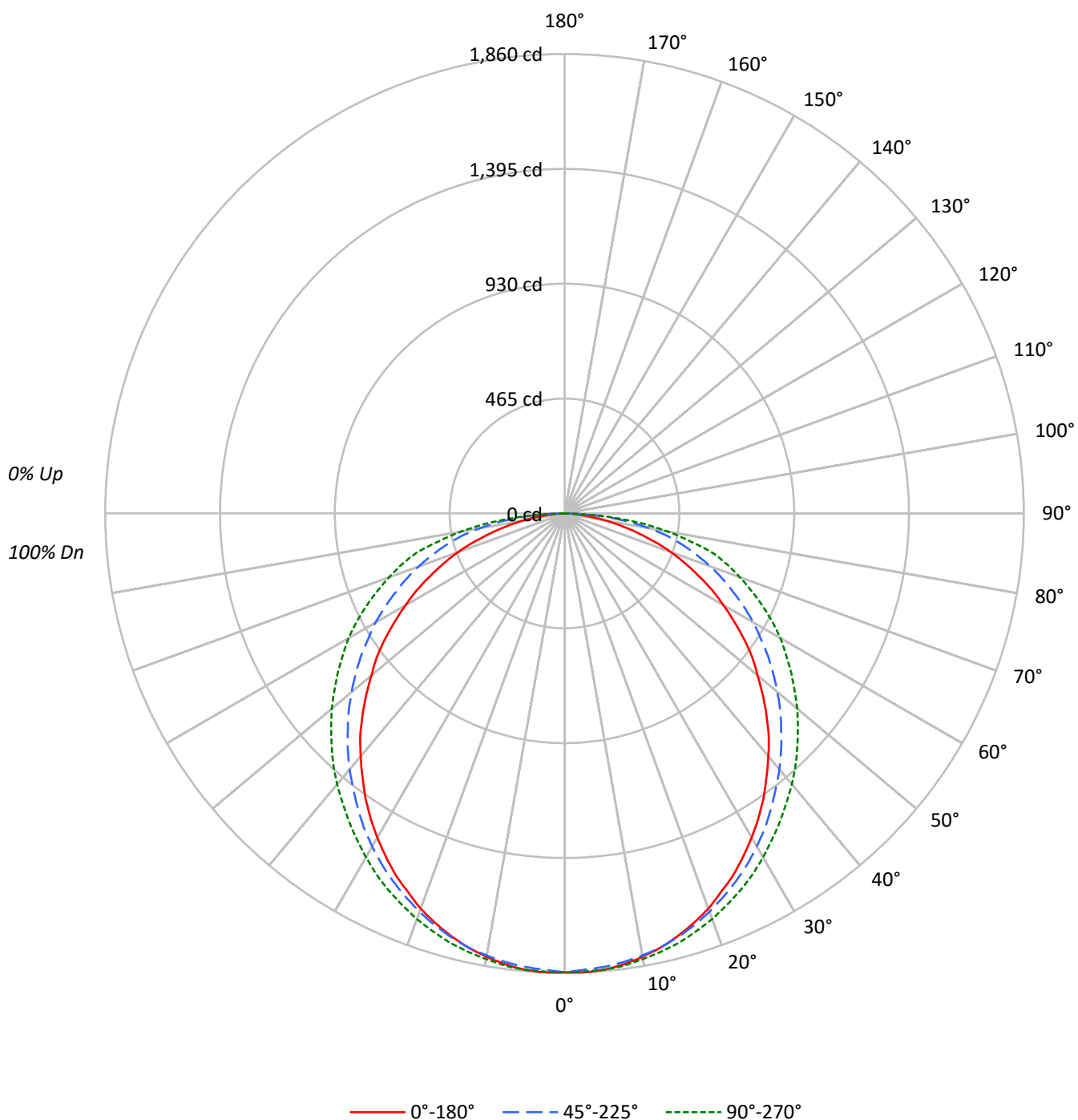
Input Watts (W): 53.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2500	2500	2500
5°	2504	2489	2504
10°	2490	2482	2503
15°	2468	2474	2505
20°	2438	2457	2503
25°	2400	2439	2500
30°	2355	2419	2498
35°	2309	2395	2499
40°	2256	2377	2515
45°	2202	2362	2536
50°	2136	2355	2575
55°	2083	2359	2627
60°	2002	2379	2716
65°	1910	2404	2815
70°	1809	2478	2971
75°	1613	2585	3245
80°	1376	2737	3317
85°	982	2712	3174



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	175.8	3.1
10°-20°	502.8	8.9
20°-30°	759.4	13.5
30°-40°	915.3	16.2
40°-50°	960.9	17.1
50°-60°	899.0	16.0
60°-70°	742.4	13.2
70°-80°	505.9	9.0
80°-90°	172.5	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°	1438.1	25.5
0°-40°	2353.4	41.8
0°-60°	4213.2	74.8
0°-90°	5634.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5634.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1858	1858	1858	1858	1858	
5°	1854	1852	1843	1854	1854	176
15°	1772	1774	1776	1794	1798	500
25°	1617	1624	1643	1675	1684	744
35°	1406	1421	1458	1507	1522	878
45°	1157	1181	1241	1308	1333	892
55°	888	923	1006	1088	1120	792
65°	600	650	755	850	884	595
75°	310	381	497	591	624	331
85°	64	125	176	198	206	80
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1858.0	1858.0	1858.0	1858.0	1858.0
2.5°	1859.9	1858.0	1848.7	1858.0	1856.2
5°	1854.3	1852.4	1843.1	1854.3	1854.3
7.5°	1841.2	1841.2	1831.9	1845.0	1846.8
10°	1822.5	1822.5	1816.9	1831.9	1831.9
12.5°	1800.1	1800.1	1800.1	1815.1	1816.9
15°	1772.1	1773.9	1775.8	1794.5	1798.2
17.5°	1738.4	1742.2	1747.8	1770.2	1773.9
20°	1702.9	1706.6	1716.0	1742.2	1747.8
22.5°	1658.0	1667.4	1680.5	1710.4	1716.0
25°	1616.9	1624.4	1643.1	1674.9	1684.2
27.5°	1566.4	1577.7	1602.0	1635.6	1648.7
30°	1516.0	1527.2	1557.1	1596.3	1607.6
32.5°	1461.8	1478.6	1510.4	1551.5	1564.6
35°	1405.7	1420.6	1458.0	1506.6	1521.6
37.5°	1344.0	1364.6	1405.7	1458.0	1476.7
40°	1284.2	1306.6	1353.3	1409.4	1431.9
42.5°	1224.4	1246.8	1299.1	1362.7	1385.1
45°	1157.1	1181.4	1241.2	1308.5	1332.8
47.5°	1089.8	1119.7	1185.1	1256.1	1282.3
50°	1020.6	1054.3	1125.3	1200.1	1230.0
52.5°	958.9	990.7	1065.5	1145.9	1173.9
55°	887.9	923.4	1005.7	1087.9	1119.7
57.5°	815.0	854.3	942.1	1031.8	1063.6
60°	744.0	787.0	884.2	973.9	1009.4
62.5°	674.8	717.8	818.7	912.2	947.7
65°	600.0	650.5	755.2	850.5	884.2
67.5°	529.0	583.2	693.5	787.0	820.6
70°	459.8	512.2	629.9	721.5	755.2
72.5°	385.1	444.9	562.6	658.0	693.5
75°	310.3	381.3	497.2	590.7	624.3
77.5°	241.1	314.0	429.9	506.6	523.4
80°	177.6	252.4	353.3	407.5	428.1
82.5°	114.0	188.8	269.2	308.4	325.3
85°	63.6	125.2	175.7	198.1	205.6
87.5°	26.2	54.2	71.0	80.4	80.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)