

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: P314361

Luminaire Tested: **24FCZ2-45-UNV-L83050-S-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: P314361
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: 24FCZ2-45-UNV-L83050-S-CP250-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (168) 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: 4041.0 lumens
Efficiency: N/A
Efficacy: 107.5 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

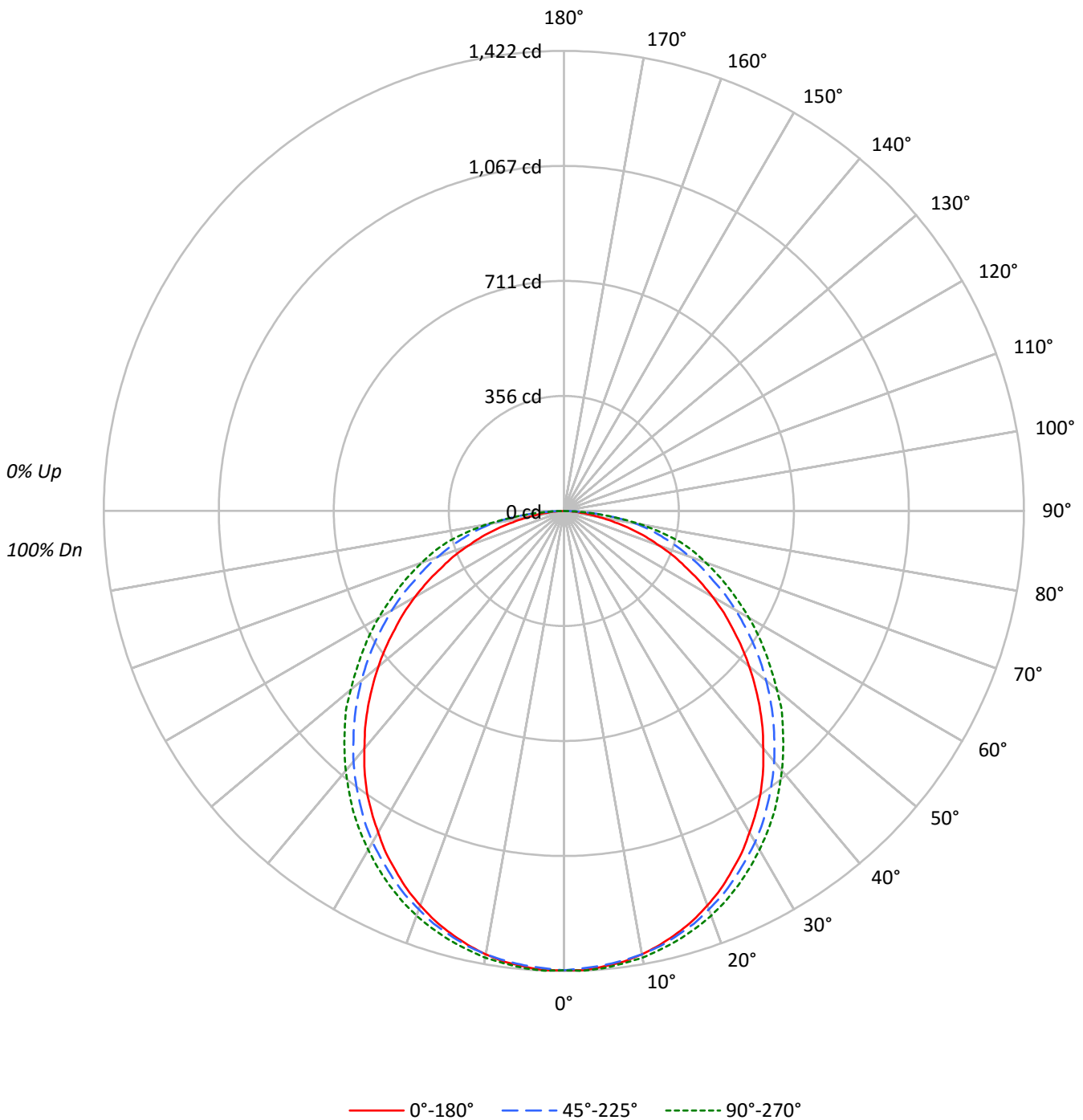
Input Watts (W): 37.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1910	1910	1910
5°	1909	1904	1916
10°	1901	1901	1915
15°	1883	1892	1911
20°	1858	1876	1906
25°	1824	1858	1894
30°	1783	1837	1879
35°	1744	1807	1864
40°	1684	1777	1842
45°	1629	1741	1822
50°	1566	1709	1800
55°	1496	1677	1783
60°	1426	1651	1779
65°	1336	1622	1790
70°	1237	1631	1838
75°	1108	1661	1942
80°	895	1760	1900
85°	673	1545	1507



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.4	3.3
10°-20°	384.0	9.5
20°-30°	577.3	14.3
30°-40°	687.6	17.0
40°-50°	703.8	17.4
50°-60°	633.6	15.7
60°-70°	497.6	12.3
70°-80°	322.9	8.0
80°-90°	99.9	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°	1095.7	27.1
0°-40°	1783.3	44.1
0°-60°	3120.6	77.2
0°-90°	4041.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4041.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1420	1420	1420	1420	1420	
5°	1413	1416	1409	1417	1418	134
15°	1352	1356	1358	1370	1372	381
25°	1228	1239	1252	1272	1276	566
35°	1062	1074	1100	1127	1135	662
45°	856	877	915	950	958	660
55°	638	666	715	752	760	572
65°	420	452	510	552	562	418
75°	213	254	320	363	374	225
85°	44	81	100	98	98	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1419.6	1419.6	1419.6	1419.6	1419.6
2.5°	1420.9	1420.9	1414.5	1420.9	1422.2
5°	1413.2	1415.8	1409.4	1417.1	1418.3
7.5°	1405.5	1405.5	1401.7	1409.4	1410.6
10°	1391.4	1392.7	1391.4	1400.4	1401.7
12.5°	1373.4	1376.0	1377.3	1386.3	1387.5
15°	1351.6	1355.5	1358.0	1369.6	1372.1
17.5°	1327.2	1331.1	1337.5	1350.3	1352.9
20°	1297.7	1302.8	1310.5	1327.2	1331.1
22.5°	1265.6	1270.7	1283.6	1299.0	1305.4
25°	1228.4	1238.6	1251.5	1272.0	1275.9
27.5°	1191.2	1200.1	1216.8	1238.6	1243.8
30°	1147.5	1161.6	1182.2	1204.0	1209.1
32.5°	1105.2	1119.3	1143.7	1166.8	1173.2
35°	1061.5	1074.3	1100.0	1127.0	1134.7
37.5°	1011.5	1028.1	1056.4	1083.3	1091.0
40°	958.8	979.4	1011.5	1039.7	1048.7
42.5°	908.8	930.6	962.7	993.5	1003.8
45°	856.1	876.7	915.2	949.8	957.5
47.5°	802.2	825.3	866.4	901.1	913.9
50°	748.3	772.7	816.4	852.3	860.0
52.5°	694.4	720.1	766.3	804.8	808.6
55°	637.9	666.2	714.9	752.2	759.9
57.5°	586.6	611.0	663.6	702.1	711.1
60°	530.1	557.1	613.5	649.5	661.0
62.5°	476.2	504.4	563.5	599.4	609.7
65°	419.7	451.8	509.6	551.9	562.2
67.5°	371.0	401.8	463.4	504.4	514.7
70°	314.5	349.1	414.6	457.0	467.2
72.5°	265.7	301.6	367.1	408.2	423.6
75°	213.1	254.1	319.6	363.3	373.5
77.5°	161.7	209.2	276.0	309.3	309.3
80°	115.5	165.6	227.2	242.6	245.2
82.5°	75.7	124.5	168.1	166.9	166.9
85°	43.6	80.9	100.1	97.6	97.6
87.5°	16.7	33.4	35.9	35.9	34.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)