

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: P313972

Luminaire Tested: **24FCZ2-45-UNV-L83050-CA125-W2A-U-4000K**

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: P313972
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: 24FCZ2-45-UNV-L83050-CA125-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" ACRYLIC SHEET
Light Source: (168) 4000K 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: 4335.0 lumens
Efficiency: N/A
Efficacy: 112.6 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

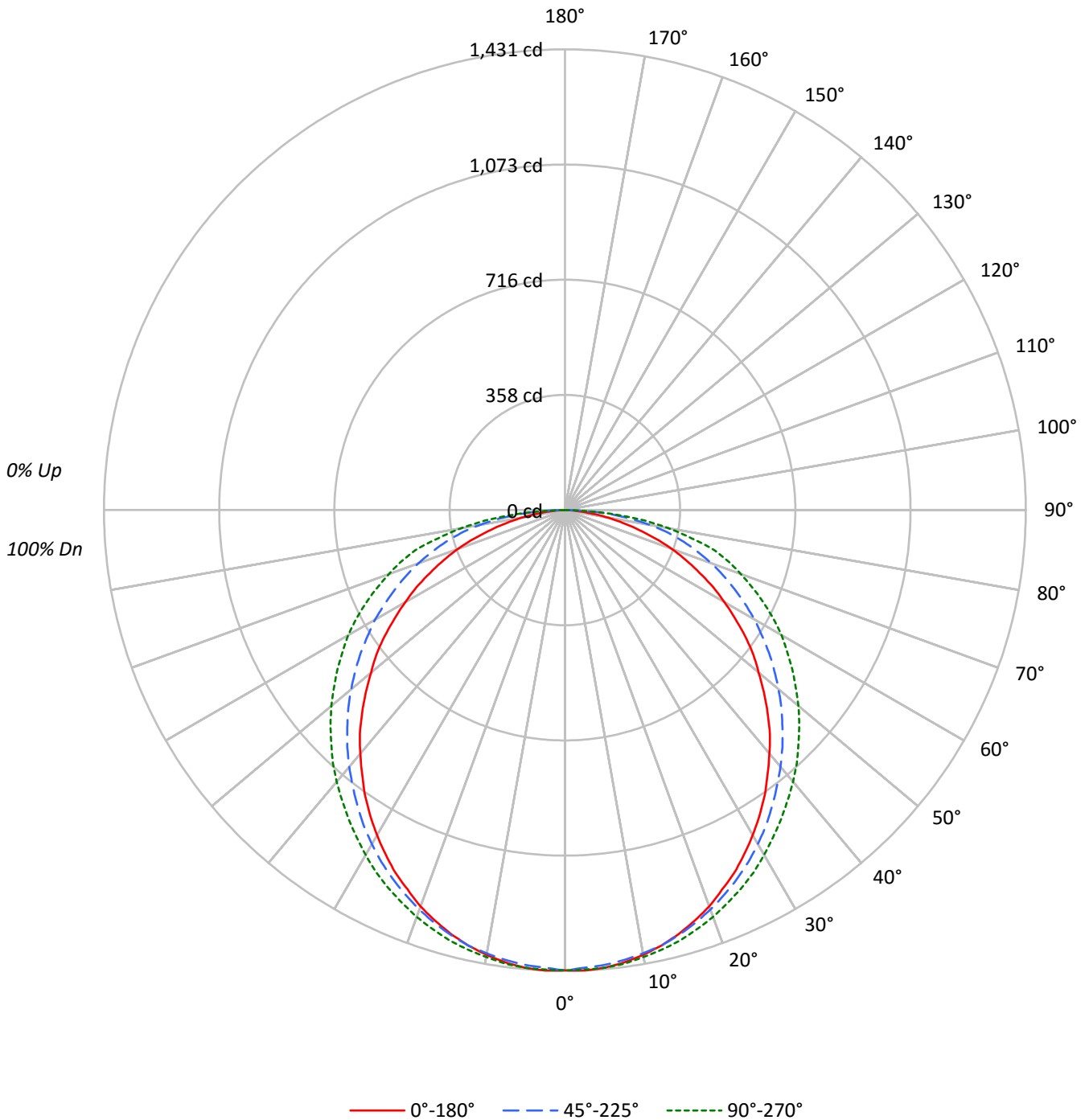
Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1924	1924	1924
5°	1927	1915	1927
10°	1916	1910	1926
15°	1899	1903	1927
20°	1876	1890	1926
25°	1847	1877	1924
30°	1812	1861	1922
35°	1777	1843	1923
40°	1736	1829	1935
45°	1694	1817	1951
50°	1644	1812	1981
55°	1603	1815	2021
60°	1540	1831	2090
65°	1470	1850	2166
70°	1392	1907	2286
75°	1241	1989	2497
80°	1058	2106	2552
85°	755	2087	2442



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.3	3.1
10°-20°	386.9	8.9
20°-30°	584.3	13.5
30°-40°	704.3	16.2
40°-50°	739.3	17.1
50°-60°	691.7	16.0
60°-70°	571.2	13.2
70°-80°	389.2	9.0
80°-90°	132.7	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°	1106.5	25.5
0°-40°	1810.8	41.8
0°-60°	3241.8	74.8
0°-90°	4335.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4335.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1430	1430	1430	1430	1430	
5°	1427	1425	1418	1427	1427	135
15°	1364	1365	1366	1381	1384	384
25°	1244	1250	1264	1289	1296	572
35°	1082	1093	1122	1159	1171	676
45°	890	909	955	1007	1026	687
55°	683	710	774	837	862	610
65°	462	500	581	654	680	458
75°	239	293	383	454	480	255
85°	49	96	135	152	158	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1429.6	1429.6	1429.6	1429.6	1429.6
2.5°	1431.1	1429.6	1422.5	1429.6	1428.2
5°	1426.8	1425.3	1418.1	1426.8	1426.8
7.5°	1416.7	1416.7	1409.5	1419.6	1421.0
10°	1402.3	1402.3	1398.0	1409.5	1409.5
12.5°	1385.1	1385.1	1385.1	1396.6	1398.0
15°	1363.5	1364.9	1366.4	1380.7	1383.6
17.5°	1337.6	1340.5	1344.8	1362.0	1364.9
20°	1310.3	1313.1	1320.3	1340.5	1344.8
22.5°	1275.7	1282.9	1293.0	1316.0	1320.3
25°	1244.1	1249.9	1264.2	1288.7	1295.9
27.5°	1205.3	1213.9	1232.6	1258.5	1268.6
30°	1166.4	1175.1	1198.1	1228.3	1236.9
32.5°	1124.7	1137.7	1162.1	1193.8	1203.8
35°	1081.6	1093.1	1121.9	1159.2	1170.8
37.5°	1034.1	1049.9	1081.6	1121.9	1136.2
40°	988.1	1005.4	1041.3	1084.5	1101.7
42.5°	942.1	959.3	999.6	1048.5	1065.8
45°	890.3	909.0	955.0	1006.8	1025.5
47.5°	838.5	861.5	911.9	966.5	986.7
50°	785.3	811.2	865.8	923.4	946.4
52.5°	737.8	762.3	819.8	881.7	903.2
55°	683.2	710.5	773.8	837.1	861.5
57.5°	627.1	657.3	724.9	793.9	818.4
60°	572.4	605.5	680.3	749.3	776.7
62.5°	519.2	552.3	630.0	701.9	729.2
65°	461.7	500.5	581.1	654.4	680.3
67.5°	407.0	448.7	533.6	605.5	631.4
70°	353.8	394.1	484.7	555.2	581.1
72.5°	296.3	342.3	432.9	506.3	533.6
75°	238.8	293.4	382.6	454.5	480.4
77.5°	185.5	241.6	330.8	389.8	402.7
80°	136.6	194.2	271.8	313.5	329.4
82.5°	87.7	145.3	207.1	237.3	250.3
85°	48.9	96.4	135.2	152.5	158.2
87.5°	20.1	41.7	54.7	61.8	61.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)