

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: P310813

Luminaire Tested: **24FCZ2-45-UNV-L82765-CA08-W2A-U-6500K**

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: P310813
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-L82765-CA08-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 6500K 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: 4331.0 lumens
Efficiency: N/A
Efficacy: 110.2 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

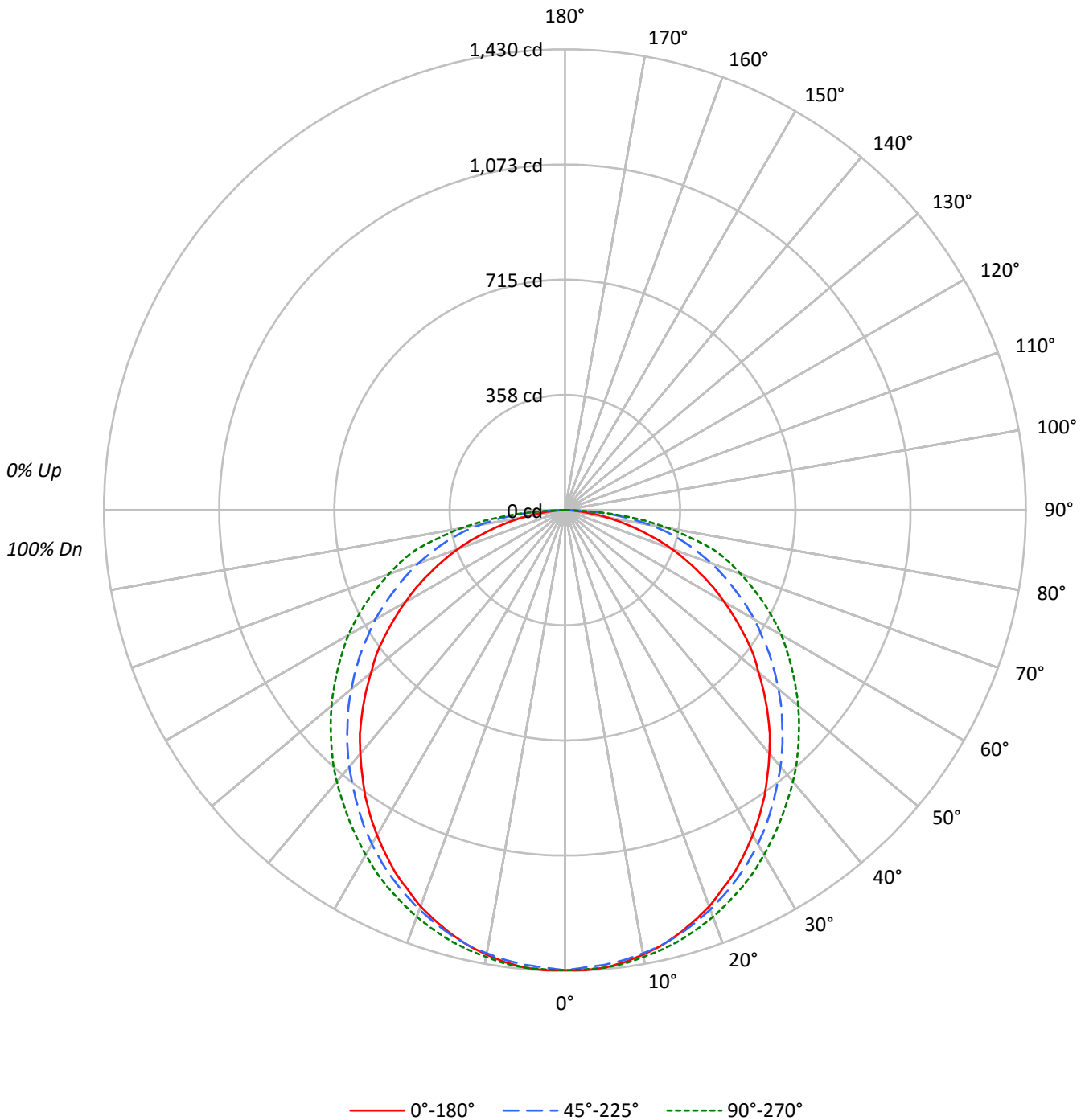
Input Watts (W): 39.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1922	1922	1922
5°	1925	1914	1925
10°	1914	1908	1924
15°	1897	1902	1925
20°	1874	1889	1924
25°	1845	1875	1922
30°	1811	1860	1920
35°	1775	1841	1921
40°	1734	1827	1933
45°	1693	1815	1949
50°	1642	1811	1979
55°	1601	1814	2019
60°	1539	1829	2088
65°	1469	1848	2164
70°	1391	1905	2284
75°	1240	1987	2495
80°	1058	2104	2550
85°	755	2086	2441



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.2	3.1
10°-20°	386.5	8.9
20°-30°	583.8	13.5
30°-40°	703.6	16.2
40°-50°	738.7	17.1
50°-60°	691.1	16.0
60°-70°	570.7	13.2
70°-80°	388.9	9.0
80°-90°	132.6	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°	1105.5	25.5
0°-40°	1809.1	41.8
0°-60°	3238.8	74.8
0°-90°	4331.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4331.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1428	1428	1428	1428	1428	
5°	1426	1424	1417	1426	1426	135
15°	1362	1364	1365	1380	1382	384
25°	1243	1249	1263	1288	1295	572
35°	1081	1092	1121	1158	1170	675
45°	890	908	954	1006	1024	686
55°	683	710	773	836	861	609
65°	461	500	580	654	680	458
75°	238	293	382	454	480	254
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°	1428.3	1428.3	1428.3	1428.3	1428.3
2.5°	1429.8	1428.3	1421.1	1428.3	1426.9
5°	1425.5	1424.0	1416.8	1425.5	1425.5
7.5°	1415.4	1415.4	1408.2	1418.3	1419.7
10°	1401.0	1401.0	1396.7	1408.2	1408.2
12.5°	1383.8	1383.8	1383.8	1395.3	1396.7
15°	1362.2	1363.7	1365.1	1379.5	1382.3
17.5°	1336.4	1339.2	1343.5	1360.8	1363.7
20°	1309.1	1311.9	1319.1	1339.2	1343.5
22.5°	1274.6	1281.8	1291.8	1314.8	1319.1
25°	1243.0	1248.7	1263.1	1287.5	1294.7
27.5°	1204.2	1212.8	1231.5	1257.3	1267.4
30°	1165.4	1174.0	1197.0	1227.2	1235.8
32.5°	1123.7	1136.6	1161.1	1192.7	1202.7
35°	1080.6	1092.1	1120.8	1158.2	1169.7
37.5°	1033.2	1049.0	1080.6	1120.8	1135.2
40°	987.2	1004.4	1040.4	1083.5	1100.7
42.5°	941.2	958.4	998.7	1047.5	1064.8
45°	889.5	908.2	954.1	1005.9	1024.5
47.5°	837.7	860.7	911.0	965.6	985.7
50°	784.6	810.4	865.0	922.5	945.5
52.5°	737.2	761.6	819.1	880.8	902.4
55°	682.6	709.9	773.1	836.3	860.7
57.5°	626.5	656.7	724.2	793.2	817.6
60°	571.9	605.0	679.7	748.6	776.0
62.5°	518.7	551.8	629.4	701.2	728.5
65°	461.3	500.1	580.5	653.8	679.7
67.5°	406.7	448.3	533.1	605.0	630.8
70°	353.5	393.7	484.3	554.7	580.5
72.5°	296.0	342.0	432.5	505.8	533.1
75°	238.5	293.1	382.2	454.1	479.9
77.5°	185.4	241.4	330.5	389.4	402.3
80°	136.5	194.0	271.6	313.3	329.1
82.5°	87.7	145.1	206.9	237.1	250.0
85°	48.9	96.3	135.1	152.3	158.1
87.5°	20.1	41.7	54.6	61.8	61.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)