

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: P310820

Luminaire Tested: **24FCZ2-45-UNV-L82765-CA125-W2A-U-5500K**

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: P310820
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-CA125-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" ACRYLIC SHEET
Light Source: (168) 5500K 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: 4294.0 lumens
Efficiency: N/A
Efficacy: 111.0 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

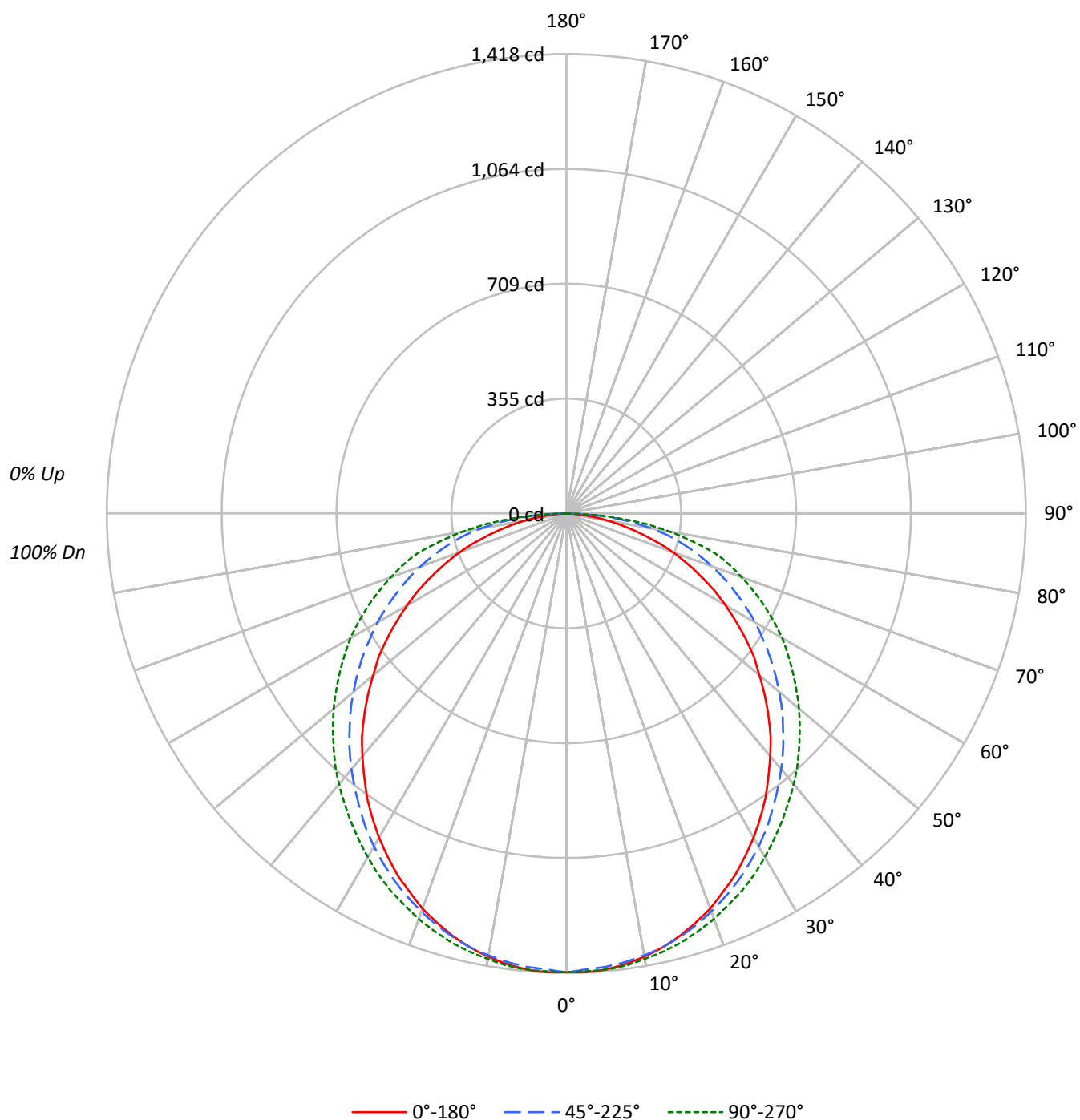
Input Watts (W): 38.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1905	1905	1905
5°	1909	1897	1909
10°	1898	1892	1908
15°	1881	1885	1909
20°	1858	1873	1907
25°	1829	1859	1906
30°	1795	1844	1904
35°	1760	1825	1905
40°	1719	1812	1917
45°	1678	1800	1933
50°	1628	1795	1962
55°	1587	1798	2002
60°	1526	1813	2070
65°	1456	1833	2145
70°	1379	1889	2264
75°	1229	1970	2473
80°	1048	2087	2528
85°	747	2067	2419



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.0	3.1
10°-20°	383.2	8.9
20°-30°	578.8	13.5
30°-40°	697.6	16.2
40°-50°	732.4	17.1
50°-60°	685.2	16.0
60°-70°	565.8	13.2
70°-80°	385.6	9.0
80°-90°	131.5	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°	1096.0	25.5
0°-40°	1793.6	41.8
0°-60°	3211.2	74.8
0°-90°	4294.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4294.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1416	1416	1416	1416	1416	
5°	1413	1412	1405	1413	1413	134
15°	1351	1352	1353	1368	1370	381
25°	1232	1238	1252	1276	1284	567
35°	1071	1083	1111	1148	1160	670
45°	882	900	946	997	1016	680
55°	677	704	766	829	853	604
65°	457	496	576	648	674	454
75°	236	291	379	450	476	252
85°	48	96	134	151	157	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1416.1	1416.1	1416.1	1416.1	1416.1
2.5°	1417.5	1416.1	1409.0	1416.1	1414.7
5°	1413.3	1411.8	1404.7	1413.3	1413.3
7.5°	1403.3	1403.3	1396.2	1406.2	1407.6
10°	1389.1	1389.1	1384.8	1396.2	1396.2
12.5°	1372.0	1372.0	1372.0	1383.4	1384.8
15°	1350.6	1352.0	1353.4	1367.7	1370.5
17.5°	1324.9	1327.8	1332.1	1349.2	1352.0
20°	1297.9	1300.7	1307.8	1327.8	1332.1
22.5°	1263.7	1270.8	1280.8	1303.6	1307.8
25°	1232.3	1238.0	1252.3	1276.5	1283.6
27.5°	1193.9	1202.4	1220.9	1246.6	1256.6
30°	1155.4	1164.0	1186.8	1216.7	1225.2
32.5°	1114.1	1126.9	1151.1	1182.5	1192.5
35°	1071.4	1082.8	1111.2	1148.3	1159.7
37.5°	1024.3	1040.0	1071.4	1111.2	1125.5
40°	978.7	995.8	1031.5	1074.2	1091.3
42.5°	933.2	950.3	990.1	1038.6	1055.7
45°	881.9	900.4	946.0	997.3	1015.8
47.5°	830.6	853.4	903.2	957.4	977.3
50°	777.9	803.5	857.7	914.6	937.4
52.5°	730.9	755.1	812.1	873.3	894.7
55°	676.7	703.8	766.5	829.2	853.4
57.5°	621.2	651.1	718.0	786.4	810.6
60°	567.0	599.8	673.9	742.3	769.3
62.5°	514.3	547.1	624.0	695.2	722.3
65°	457.3	495.8	575.6	648.2	673.9
67.5°	403.2	444.5	528.6	599.8	625.4
70°	350.5	390.4	480.1	549.9	575.6
72.5°	293.5	339.1	428.8	501.5	528.6
75°	236.5	290.6	379.0	450.2	475.8
77.5°	183.8	239.3	327.7	386.1	398.9
80°	135.3	192.3	269.3	310.6	326.2
82.5°	86.9	143.9	205.2	235.1	247.9
85°	48.4	95.5	133.9	151.0	156.7
87.5°	19.9	41.3	54.1	61.3	61.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)