

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: P310818

Luminaire Tested: **24FCZ2-45-UNV-L82765-CA125-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: P310818
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-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" ACRYLIC SHEET
Light Source: (168) 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: 4194.0 lumens
Efficiency: N/A
Efficacy: 109.5 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

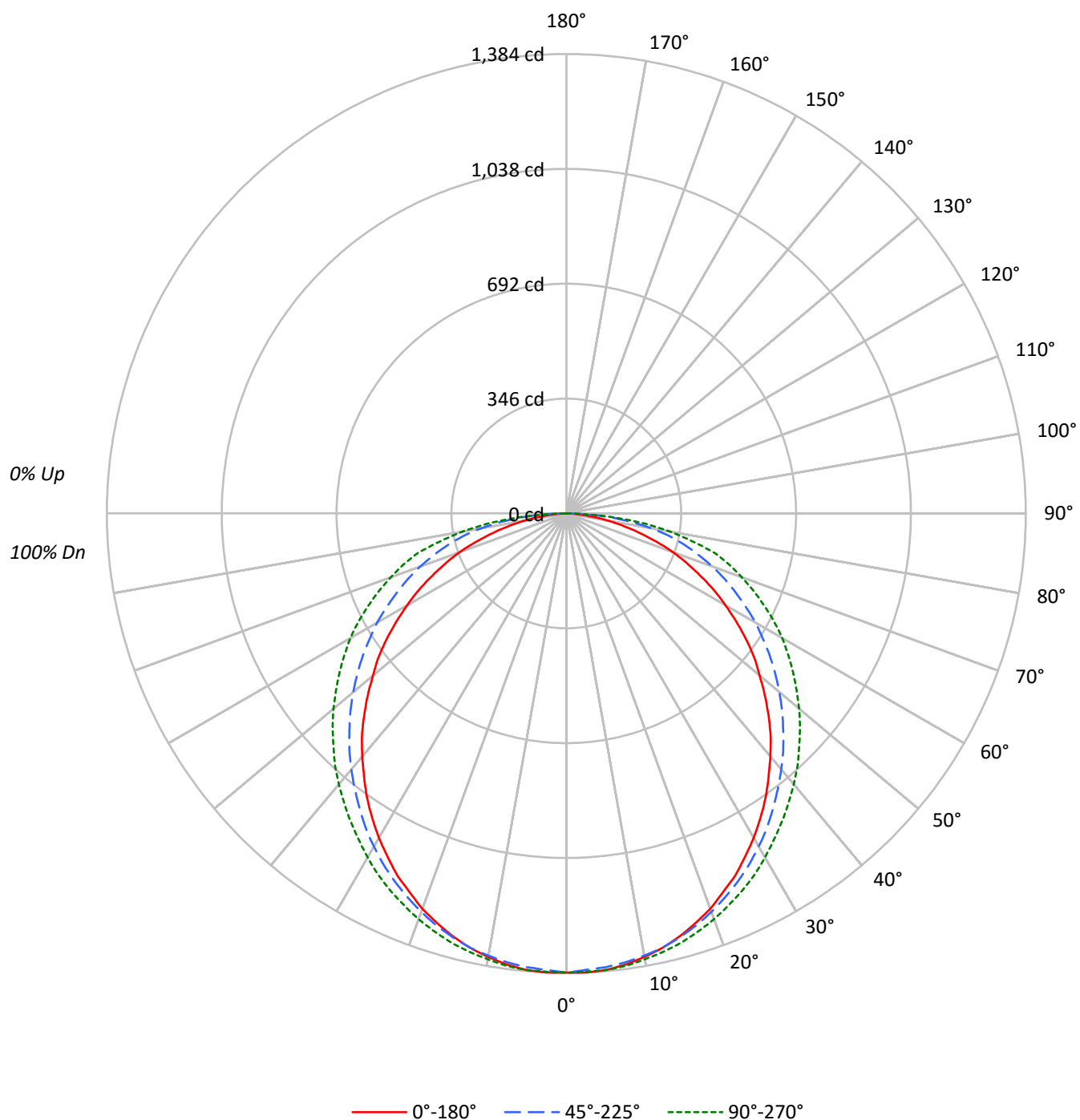
Input Watts (W): 38.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1861	1861	1861
5°	1864	1853	1864
10°	1854	1848	1863
15°	1837	1841	1865
20°	1815	1829	1863
25°	1787	1816	1861
30°	1753	1801	1859
35°	1719	1783	1861
40°	1679	1769	1872
45°	1639	1758	1888
50°	1590	1753	1917
55°	1551	1756	1955
60°	1490	1771	2022
65°	1422	1790	2096
70°	1347	1845	2212
75°	1201	1924	2416
80°	1024	2038	2469
85°	730	2019	2364



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	130.9	3.1
10°-20°	374.3	8.9
20°-30°	565.3	13.5
30°-40°	681.3	16.2
40°-50°	715.3	17.1
50°-60°	669.2	16.0
60°-70°	552.6	13.2
70°-80°	376.6	9.0
80°-90°	128.4	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°	1070.5	25.5
0°-40°	1751.9	41.8
0°-60°	3136.4	74.8
0°-90°	4194.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4194.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1383	1383	1383	1383	1383	
5°	1380	1379	1372	1380	1380	131
15°	1319	1320	1322	1336	1339	372
25°	1204	1209	1223	1247	1254	554
35°	1046	1058	1085	1122	1133	654
45°	861	879	924	974	992	664
55°	661	687	749	810	834	590
65°	447	484	562	633	658	443
75°	231	284	370	440	465	246
85°	47	93	131	148	153	59
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1383.1	1383.1	1383.1	1383.1	1383.1
2.5°	1384.5	1383.1	1376.2	1383.1	1381.8
5°	1380.4	1379.0	1372.0	1380.4	1380.4
7.5°	1370.6	1370.6	1363.7	1373.4	1374.8
10°	1356.7	1356.7	1352.5	1363.7	1363.7
12.5°	1340.0	1340.0	1340.0	1351.1	1352.5
15°	1319.1	1320.5	1321.9	1335.8	1338.6
17.5°	1294.1	1296.9	1301.0	1317.7	1320.5
20°	1267.7	1270.4	1277.4	1296.9	1301.0
22.5°	1234.3	1241.2	1251.0	1273.2	1277.4
25°	1203.6	1209.2	1223.1	1246.8	1253.7
27.5°	1166.1	1174.4	1192.5	1217.6	1227.3
30°	1128.5	1136.9	1159.1	1188.3	1196.7
32.5°	1088.1	1100.7	1124.3	1154.9	1164.7
35°	1046.4	1057.5	1085.4	1121.5	1132.7
37.5°	1000.5	1015.8	1046.4	1085.4	1099.3
40°	956.0	972.7	1007.4	1049.2	1065.9
42.5°	911.4	928.1	967.1	1014.4	1031.1
45°	861.3	879.4	924.0	974.0	992.1
47.5°	811.2	833.5	882.2	935.1	954.6
50°	759.8	784.8	837.7	893.3	915.6
52.5°	713.8	737.5	793.2	853.0	873.9
55°	661.0	687.4	748.6	809.8	833.5
57.5°	606.7	635.9	701.3	768.1	791.8
60°	553.8	585.8	658.2	725.0	751.4
62.5°	502.3	534.3	609.5	679.0	705.5
65°	446.7	484.2	562.2	633.1	658.2
67.5°	393.8	434.1	516.2	585.8	610.9
70°	342.3	381.3	468.9	537.1	562.2
72.5°	286.6	331.2	418.8	489.8	516.2
75°	231.0	283.9	370.1	439.7	464.8
77.5°	179.5	233.8	320.0	377.1	389.6
80°	132.2	187.9	263.0	303.3	318.7
82.5°	84.9	140.5	200.4	229.6	242.1
85°	47.3	93.2	130.8	147.5	153.1
87.5°	19.5	40.4	52.9	59.8	59.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)