

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: P311305

Luminaire Tested: **24FCZ2-35-UNV-L82765-S-CA08-W2A-U-5000K**

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: P311305
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: 24FCZ2-35-UNV-L82765-S-CA08-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 5000K 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

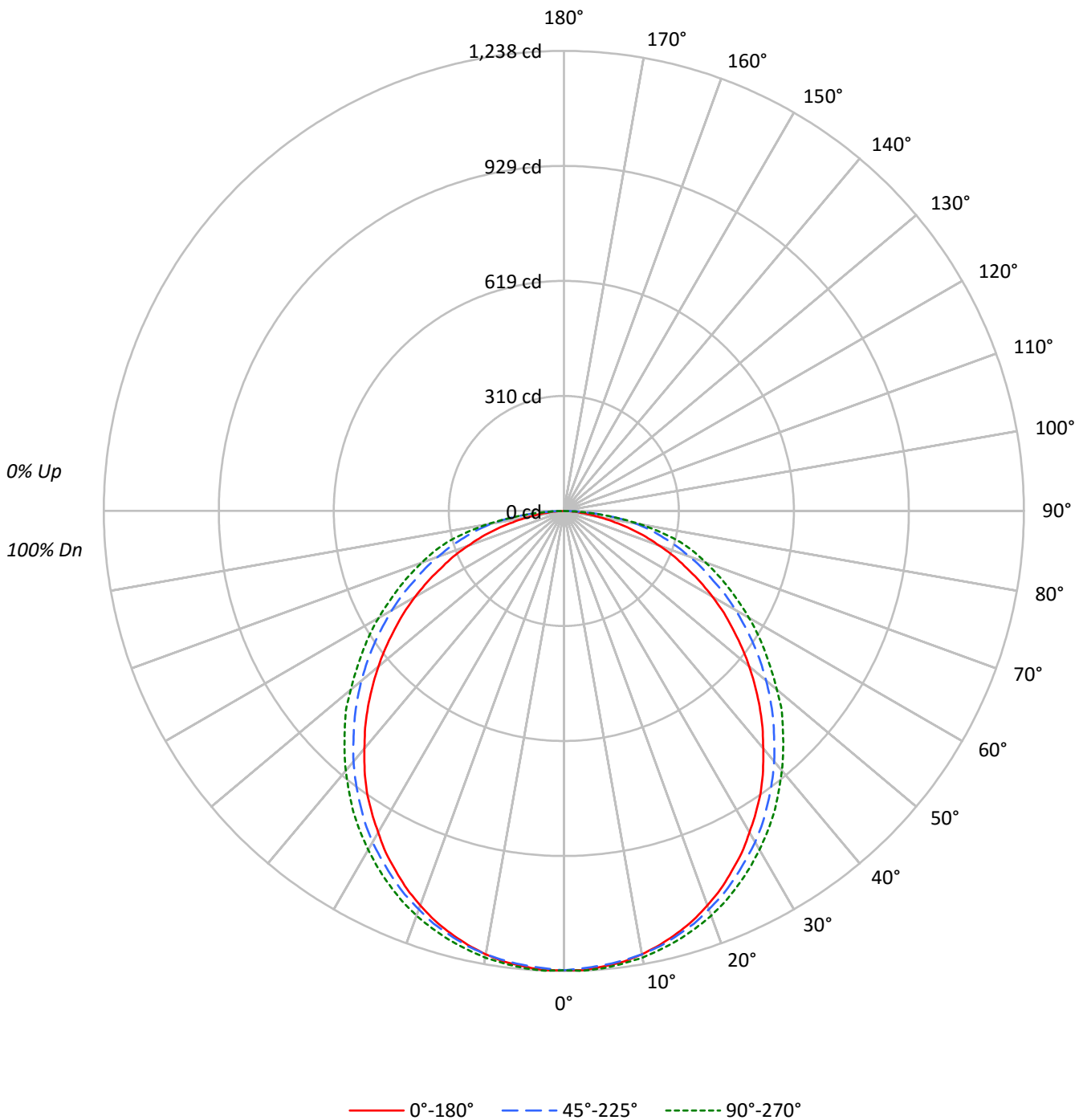
Lumens per Lamp: N/A
Luminaire Lumens: 3518.0 lumens
Efficiency: N/A
Efficacy: 122.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 28.7
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°	1663	1663	1663
5°	1662	1657	1668
10°	1655	1655	1667
15°	1639	1647	1664
20°	1618	1634	1659
25°	1588	1617	1649
30°	1552	1599	1635
35°	1518	1573	1623
40°	1466	1547	1604
45°	1418	1516	1586
50°	1364	1488	1567
55°	1303	1460	1552
60°	1242	1437	1549
65°	1163	1412	1558
70°	1077	1420	1600
75°	964	1446	1691
80°	779	1533	1654
85°	587	1346	1311



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.0	3.3
10°-20°	334.3	9.5
20°-30°	502.6	14.3
30°-40°	598.6	17.0
40°-50°	612.7	17.4
50°-60°	551.6	15.7
60°-70°	433.2	12.3
70°-80°	281.1	8.0
80°-90°	87.0	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°	953.9	27.1
0°-40°	1552.5	44.1
0°-60°	2716.7	77.2
0°-90°	3518.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3518.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1236	1236	1236	1236	1236	
5°	1230	1232	1227	1234	1235	117
15°	1177	1180	1182	1192	1195	332
25°	1069	1078	1090	1107	1111	493
35°	924	935	958	981	988	576
45°	745	763	797	827	834	575
55°	555	580	622	655	662	498
65°	365	393	444	480	489	364
75°	186	221	278	316	325	196
85°	38	70	87	85	85	46
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1235.9	1235.9	1235.9	1235.9	1235.9
2.5°	1237.0	1237.0	1231.4	1237.0	1238.1
5°	1230.3	1232.5	1227.0	1233.7	1234.8
7.5°	1223.6	1223.6	1220.3	1227.0	1228.1
10°	1211.3	1212.4	1211.3	1219.1	1220.3
12.5°	1195.7	1197.9	1199.0	1206.8	1208.0
15°	1176.7	1180.0	1182.3	1192.3	1194.6
17.5°	1155.4	1158.8	1164.4	1175.6	1177.8
20°	1129.7	1134.2	1140.9	1155.4	1158.8
22.5°	1101.8	1106.3	1117.4	1130.9	1136.4
25°	1069.4	1078.3	1089.5	1107.4	1110.7
27.5°	1037.0	1044.8	1059.3	1078.3	1082.8
30°	999.0	1011.3	1029.2	1048.2	1052.6
32.5°	962.1	974.4	995.6	1015.8	1021.3
35°	924.1	935.3	957.7	981.1	987.8
37.5°	880.5	895.1	919.7	943.1	949.8
40°	834.7	852.6	880.5	905.1	913.0
42.5°	791.2	810.1	838.1	864.9	873.8
45°	745.3	763.2	796.7	826.9	833.6
47.5°	698.4	718.5	754.3	784.4	795.6
50°	651.5	672.7	710.7	742.0	748.7
52.5°	604.5	626.9	667.1	700.6	704.0
55°	555.4	580.0	622.4	654.8	661.5
57.5°	510.7	531.9	577.7	611.2	619.1
60°	461.5	485.0	534.1	565.4	575.5
62.5°	414.6	439.2	490.6	521.8	530.8
65°	365.4	393.3	443.6	480.5	489.4
67.5°	322.9	349.8	403.4	439.2	448.1
70°	273.8	303.9	360.9	397.8	406.8
72.5°	231.3	262.6	319.6	355.3	368.8
75°	185.5	221.3	278.2	316.2	325.2
77.5°	140.8	182.1	240.3	269.3	269.3
80°	100.6	144.2	197.8	211.2	213.4
82.5°	65.9	108.4	146.4	145.3	145.3
85°	38.0	70.4	87.2	84.9	84.9
87.5°	14.5	29.1	31.3	31.3	30.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)