

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: P311303

Luminaire Tested: **24FCZ2-35-UNV-L82765-S-CA08-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: P311303
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-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" 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: 3411.0 lumens
Efficiency: N/A
Efficacy: 120.5 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

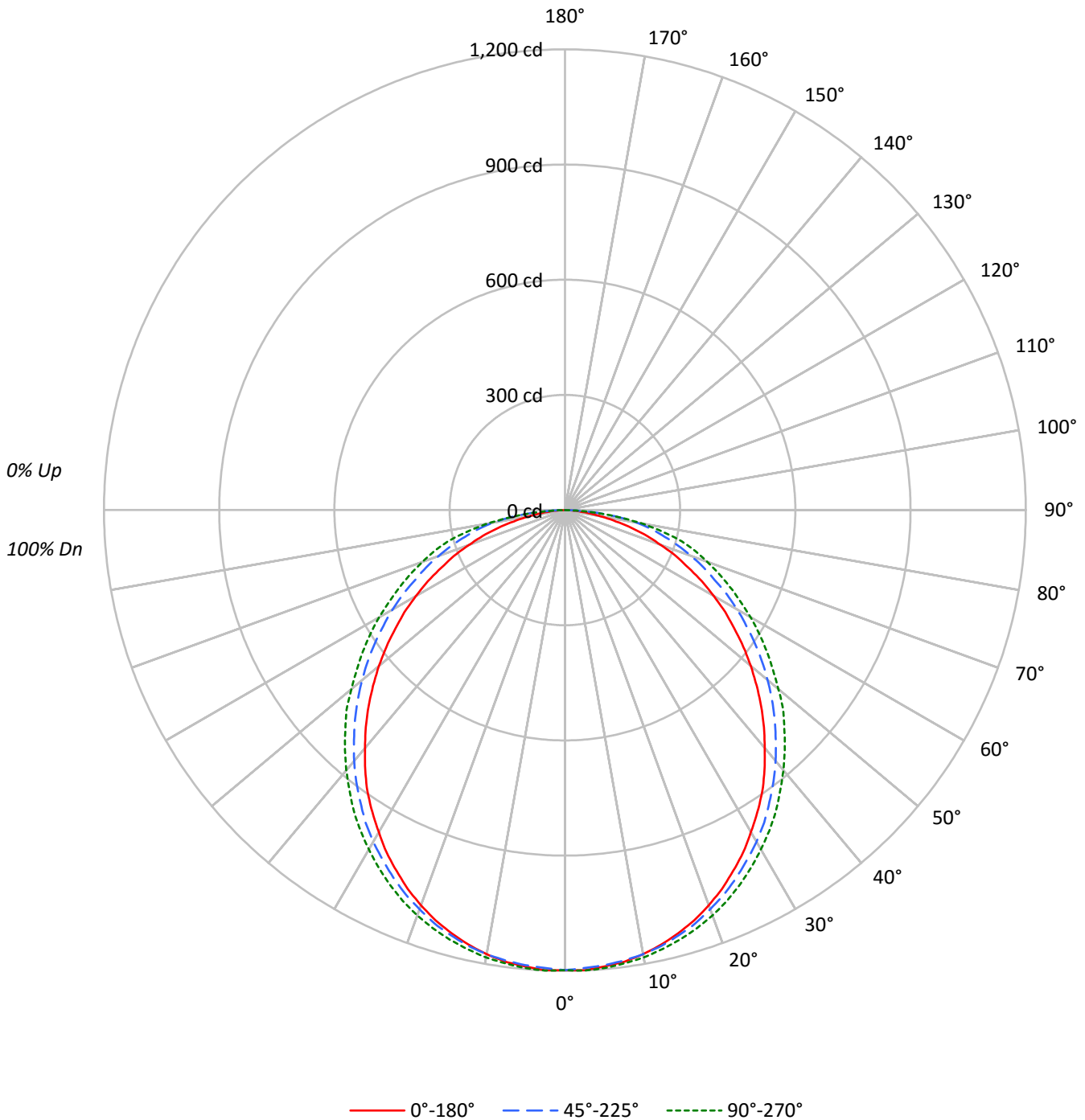
Input Watts (W): 28.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1612	1612	1612
5°	1611	1607	1617
10°	1605	1605	1616
15°	1589	1597	1613
20°	1568	1584	1609
25°	1539	1568	1599
30°	1505	1550	1586
35°	1472	1525	1573
40°	1421	1500	1555
45°	1375	1470	1538
50°	1322	1442	1519
55°	1263	1416	1505
60°	1204	1394	1502
65°	1128	1369	1511
70°	1044	1377	1552
75°	935	1403	1639
80°	755	1486	1603
85°	568	1304	1271



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.4	3.3
10°-20°	324.2	9.5
20°-30°	487.3	14.3
30°-40°	580.4	17.0
40°-50°	594.0	17.4
50°-60°	534.8	15.7
60°-70°	420.0	12.3
70°-80°	272.6	8.0
80°-90°	84.3	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°	924.9	27.1
0°-40°	1505.3	44.1
0°-60°	2634.1	77.2
0°-90°	3411.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3411.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1198	1198	1198	1198	1198	
5°	1193	1195	1190	1196	1197	113
15°	1141	1144	1146	1156	1158	322
25°	1037	1046	1056	1074	1077	478
35°	896	907	928	951	958	559
45°	723	740	772	802	808	557
55°	538	562	604	635	641	483
65°	354	381	430	466	475	353
75°	180	214	270	307	315	190
85°	37	68	84	82	82	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1198.3	1198.3	1198.3	1198.3	1198.3
2.5°	1199.4	1199.4	1194.0	1199.4	1200.5
5°	1192.9	1195.1	1189.6	1196.1	1197.2
7.5°	1186.4	1186.4	1183.1	1189.6	1190.7
10°	1174.5	1175.6	1174.5	1182.1	1183.1
12.5°	1159.3	1161.5	1162.6	1170.1	1171.2
15°	1140.9	1144.1	1146.3	1156.1	1158.2
17.5°	1120.3	1123.5	1129.0	1139.8	1142.0
20°	1095.4	1099.7	1106.2	1120.3	1123.5
22.5°	1068.3	1072.6	1083.5	1096.5	1101.9
25°	1036.9	1045.5	1056.4	1073.7	1077.0
27.5°	1005.5	1013.0	1027.1	1045.5	1049.9
30°	968.6	980.5	997.9	1016.3	1020.6
32.5°	932.9	944.8	965.4	984.9	990.3
35°	896.0	906.9	928.5	951.3	957.8
37.5°	853.8	867.9	891.7	914.4	920.9
40°	809.3	826.7	853.8	877.6	885.2
42.5°	767.1	785.5	812.6	838.6	847.3
45°	722.7	740.0	772.5	801.8	808.3
47.5°	677.2	696.7	731.3	760.6	771.4
50°	631.7	652.2	689.1	719.4	725.9
52.5°	586.2	607.8	646.8	679.3	682.6
55°	538.5	562.3	603.5	634.9	641.4
57.5°	495.1	515.7	560.1	592.7	600.2
60°	447.5	470.2	517.9	548.2	558.0
62.5°	402.0	425.8	475.6	506.0	514.6
65°	354.3	381.4	430.1	465.9	474.6
67.5°	313.1	339.1	391.1	425.8	434.5
70°	265.4	294.7	350.0	385.7	394.4
72.5°	224.3	254.6	309.9	344.5	357.5
75°	179.9	214.5	269.8	306.6	315.3
77.5°	136.5	176.6	232.9	261.1	261.1
80°	97.5	139.8	191.8	204.8	206.9
82.5°	63.9	105.1	141.9	140.8	140.8
85°	36.8	68.3	84.5	82.3	82.3
87.5°	14.1	28.2	30.3	30.3	29.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)