

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: P313843

Luminaire Tested: **24FCZ2-35HE-UNV-L83050-CA08-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: P313843
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: 24FCZ2-35HE-UNV-L83050-CA08-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 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: 3410.0 lumens
Efficiency: N/A
Efficacy: 124.9 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

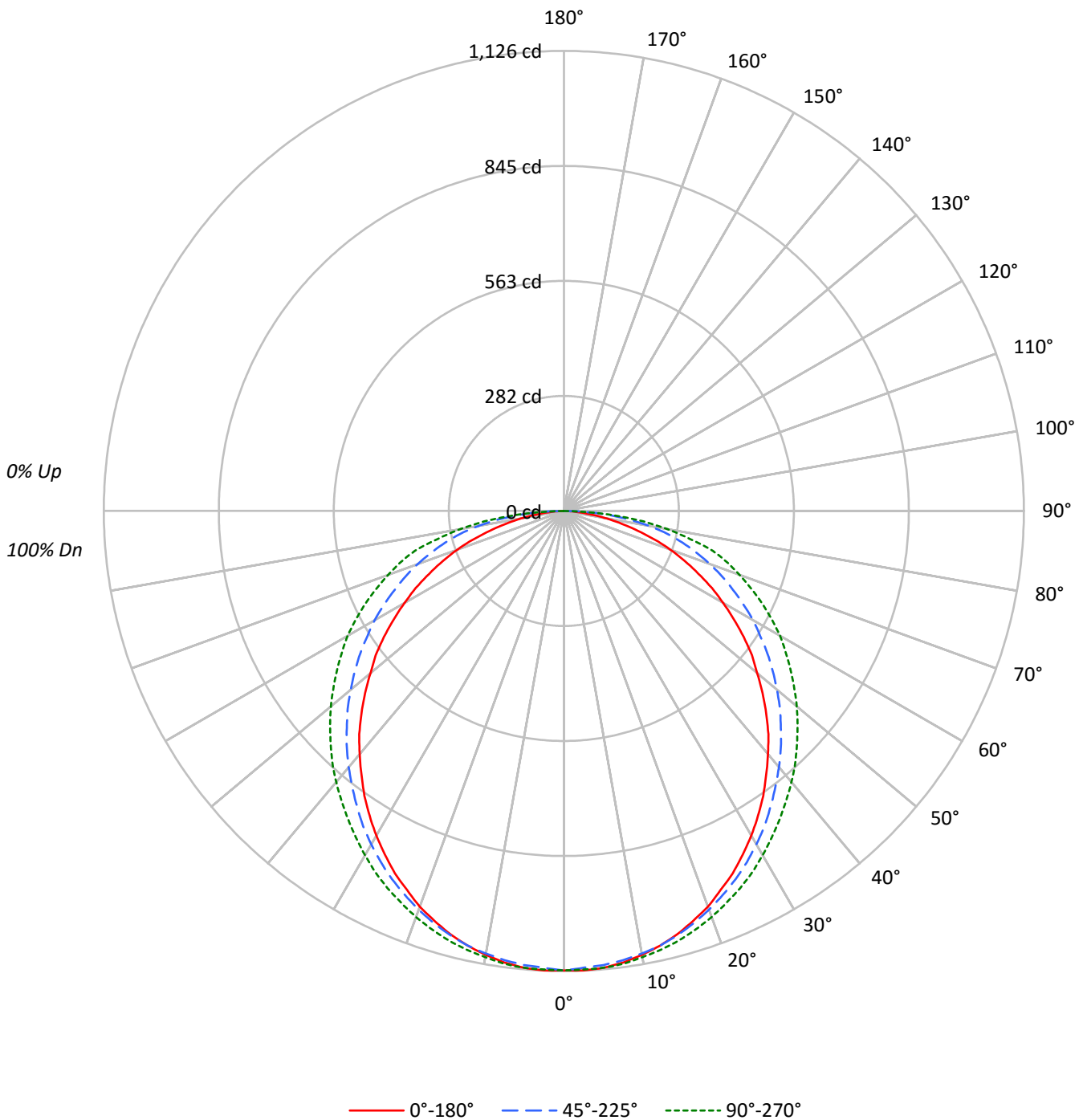
Input Watts (W): 27.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1513	1513	1513
5°	1516	1507	1516
10°	1507	1502	1515
15°	1494	1497	1516
20°	1476	1487	1515
25°	1453	1476	1513
30°	1425	1464	1512
35°	1397	1450	1513
40°	1365	1439	1522
45°	1333	1429	1535
50°	1293	1426	1558
55°	1261	1428	1590
60°	1212	1440	1644
65°	1156	1455	1704
70°	1095	1500	1798
75°	976	1564	1965
80°	833	1657	2008
85°	594	1641	1922



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	106.4	3.1
10°-20°	304.3	8.9
20°-30°	459.6	13.5
30°-40°	554.0	16.2
40°-50°	581.6	17.1
50°-60°	544.1	16.0
60°-70°	449.3	13.2
70°-80°	306.2	9.0
80°-90°	104.4	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°	870.4	25.5
0°-40°	1424.4	41.8
0°-60°	2550.1	74.8
0°-90°	3410.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3410.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1125	1125	1125	1125	1125	
5°	1122	1121	1116	1122	1122	106
15°	1072	1074	1075	1086	1088	302
25°	979	983	994	1014	1019	450
35°	851	860	882	912	921	532
45°	700	715	751	792	807	540
55°	537	559	609	658	678	480
65°	363	394	457	515	535	360
75°	188	231	301	358	378	200
85°	38	76	106	120	124	48
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1124.6	1124.6	1124.6	1124.6	1124.6
2.5°	1125.7	1124.6	1118.9	1124.6	1123.5
5°	1122.3	1121.2	1115.5	1122.3	1122.3
7.5°	1114.4	1114.4	1108.7	1116.7	1117.8
10°	1103.1	1103.1	1099.7	1108.7	1108.7
12.5°	1089.5	1089.5	1089.5	1098.6	1099.7
15°	1072.5	1073.7	1074.8	1086.1	1088.4
17.5°	1052.2	1054.4	1057.8	1071.4	1073.7
20°	1030.7	1032.9	1038.6	1054.4	1057.8
22.5°	1003.5	1009.2	1017.1	1035.2	1038.6
25°	978.6	983.2	994.5	1013.7	1019.4
27.5°	948.1	954.9	969.6	990.0	997.9
30°	917.5	924.3	942.4	966.2	973.0
32.5°	884.7	894.9	914.2	939.0	947.0
35°	850.8	859.8	882.5	911.9	920.9
37.5°	813.5	825.9	850.8	882.5	893.8
40°	777.3	790.8	819.1	853.1	866.6
42.5°	741.1	754.6	786.3	824.8	838.4
45°	700.3	715.0	751.2	792.0	806.7
47.5°	659.6	677.7	717.3	760.3	776.1
50°	617.7	638.1	681.1	726.3	744.4
52.5°	580.4	599.6	644.9	693.5	710.5
55°	537.4	558.9	608.7	658.5	677.7
57.5°	493.3	517.0	570.2	624.5	643.8
60°	450.3	476.3	535.1	589.4	610.9
62.5°	408.4	434.4	495.5	552.1	573.6
65°	363.2	393.7	457.1	514.8	535.1
67.5°	320.2	353.0	419.7	476.3	496.7
70°	278.3	310.0	381.3	436.7	457.1
72.5°	233.1	269.3	340.5	398.2	419.7
75°	187.8	230.8	300.9	357.5	377.9
77.5°	145.9	190.1	260.2	306.6	316.8
80°	107.5	152.7	213.8	246.6	259.1
82.5°	69.0	114.3	162.9	186.7	196.9
85°	38.5	75.8	106.3	119.9	124.5
87.5°	15.8	32.8	43.0	48.6	48.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)