

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: P310583

Luminaire Tested: **24FCZ2-35HE-UNV-L82765-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: P310583
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-L82765-CA08-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 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: 3212.0 lumens
Efficiency: N/A
Efficacy: 122.1 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

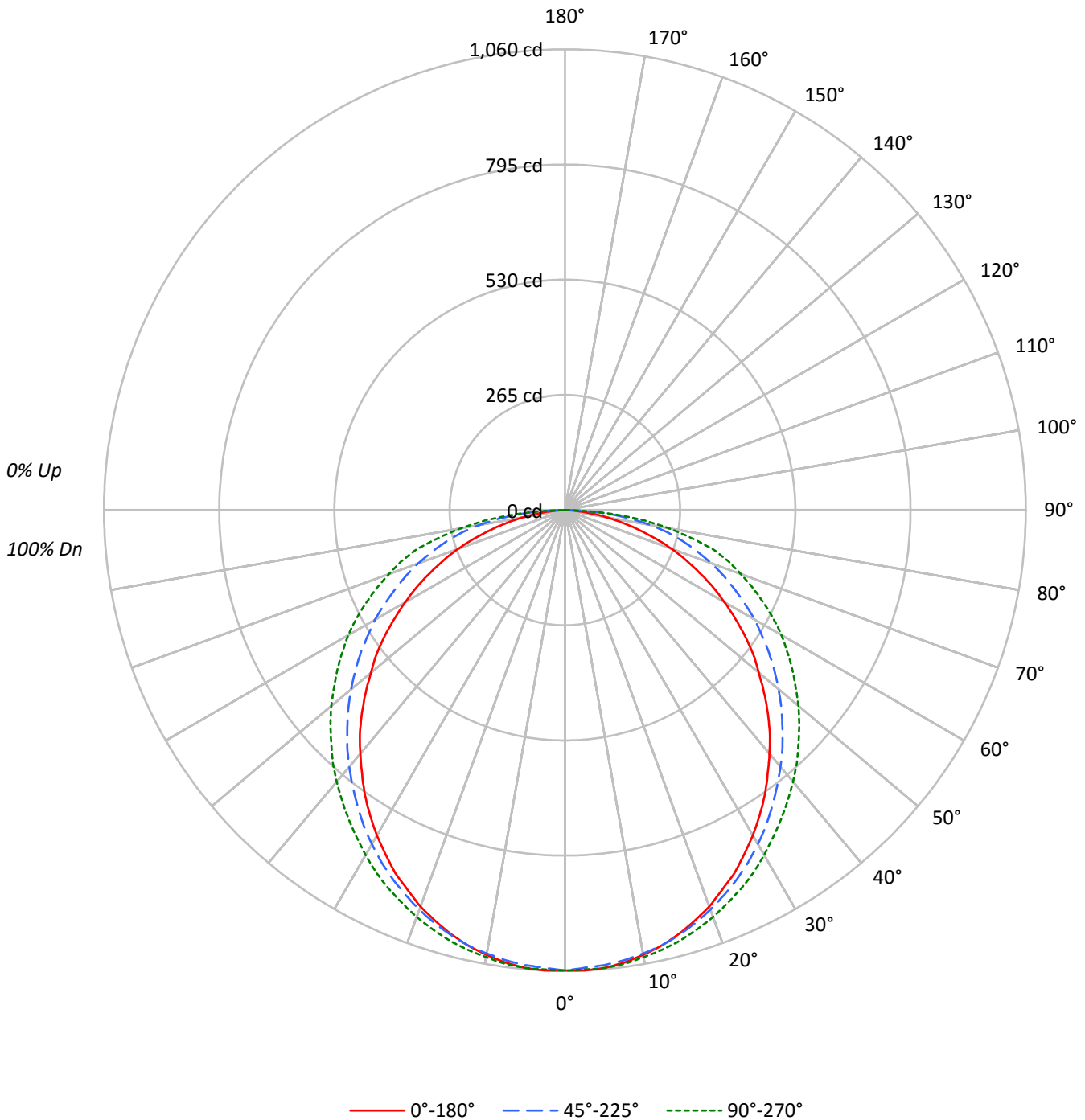
Input Watts (W): 26.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1425	1425	1425
5°	1428	1419	1428
10°	1420	1415	1427
15°	1407	1410	1428
20°	1390	1401	1427
25°	1368	1391	1425
30°	1343	1379	1424
35°	1316	1365	1425
40°	1286	1355	1434
45°	1255	1346	1446
50°	1218	1343	1468
55°	1187	1345	1497
60°	1141	1357	1549
65°	1089	1371	1605
70°	1031	1413	1694
75°	920	1474	1850
80°	784	1561	1891
85°	559	1547	1809



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.2	3.1
10°-20°	286.7	8.9
20°-30°	433.0	13.5
30°-40°	521.8	16.2
40°-50°	547.8	17.1
50°-60°	512.5	16.0
60°-70°	423.3	13.2
70°-80°	288.4	9.0
80°-90°	98.4	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°	819.9	25.5
0°-40°	1341.7	41.8
0°-60°	2402.0	74.8
0°-90°	3212.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3212.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1059	1059	1059	1059	1059	
5°	1057	1056	1051	1057	1057	100
15°	1010	1011	1012	1023	1025	285
25°	922	926	937	955	960	424
35°	801	810	831	859	868	501
45°	660	674	708	746	760	509
55°	506	526	573	620	638	452
65°	342	371	430	485	504	339
75°	177	217	284	337	356	189
85°	36	71	100	113	117	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1059.3	1059.3	1059.3	1059.3	1059.3
2.5°	1060.4	1059.3	1054.0	1059.3	1058.2
5°	1057.2	1056.1	1050.8	1057.2	1057.2
7.5°	1049.7	1049.7	1044.4	1051.8	1052.9
10°	1039.0	1039.0	1035.8	1044.4	1044.4
12.5°	1026.3	1026.3	1026.3	1034.8	1035.8
15°	1010.3	1011.3	1012.4	1023.1	1025.2
17.5°	991.1	993.2	996.4	1009.2	1011.3
20°	970.8	973.0	978.3	993.2	996.4
22.5°	945.3	950.6	958.0	975.1	978.3
25°	921.8	926.1	936.7	954.9	960.2
27.5°	893.0	899.4	913.3	932.5	939.9
30°	864.3	870.7	887.7	910.1	916.5
32.5°	833.4	843.0	861.1	884.5	892.0
35°	801.4	809.9	831.2	858.9	867.5
37.5°	766.2	777.9	801.4	831.2	841.9
40°	732.1	744.9	771.6	803.5	816.3
42.5°	698.0	710.8	740.7	776.9	789.7
45°	659.7	673.5	707.6	746.0	759.8
47.5°	621.3	638.3	675.6	716.1	731.1
50°	581.9	601.0	641.5	684.2	701.2
52.5°	546.7	564.8	607.4	653.3	669.2
55°	506.2	526.4	573.3	620.2	638.3
57.5°	464.6	487.0	537.1	588.3	606.4
60°	424.1	448.7	504.1	555.2	575.5
62.5°	384.7	409.2	466.8	520.1	540.3
65°	342.1	370.9	430.5	484.9	504.1
67.5°	301.6	332.5	395.4	448.7	467.8
70°	262.2	292.0	359.1	411.4	430.5
72.5°	219.5	253.6	320.8	375.1	395.4
75°	176.9	217.4	283.5	336.8	355.9
77.5°	137.5	179.0	245.1	288.8	298.4
80°	101.2	143.9	201.4	232.3	244.0
82.5°	65.0	107.6	153.5	175.8	185.4
85°	36.2	71.4	100.2	113.0	117.2
87.5°	14.9	30.9	40.5	45.8	45.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)