

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: P313842

Luminaire Tested: **24FCZ2-35HE-UNV-L83050-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: P313842
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-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: 3378.0 lumens
Efficiency: N/A
Efficacy: 127.0 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

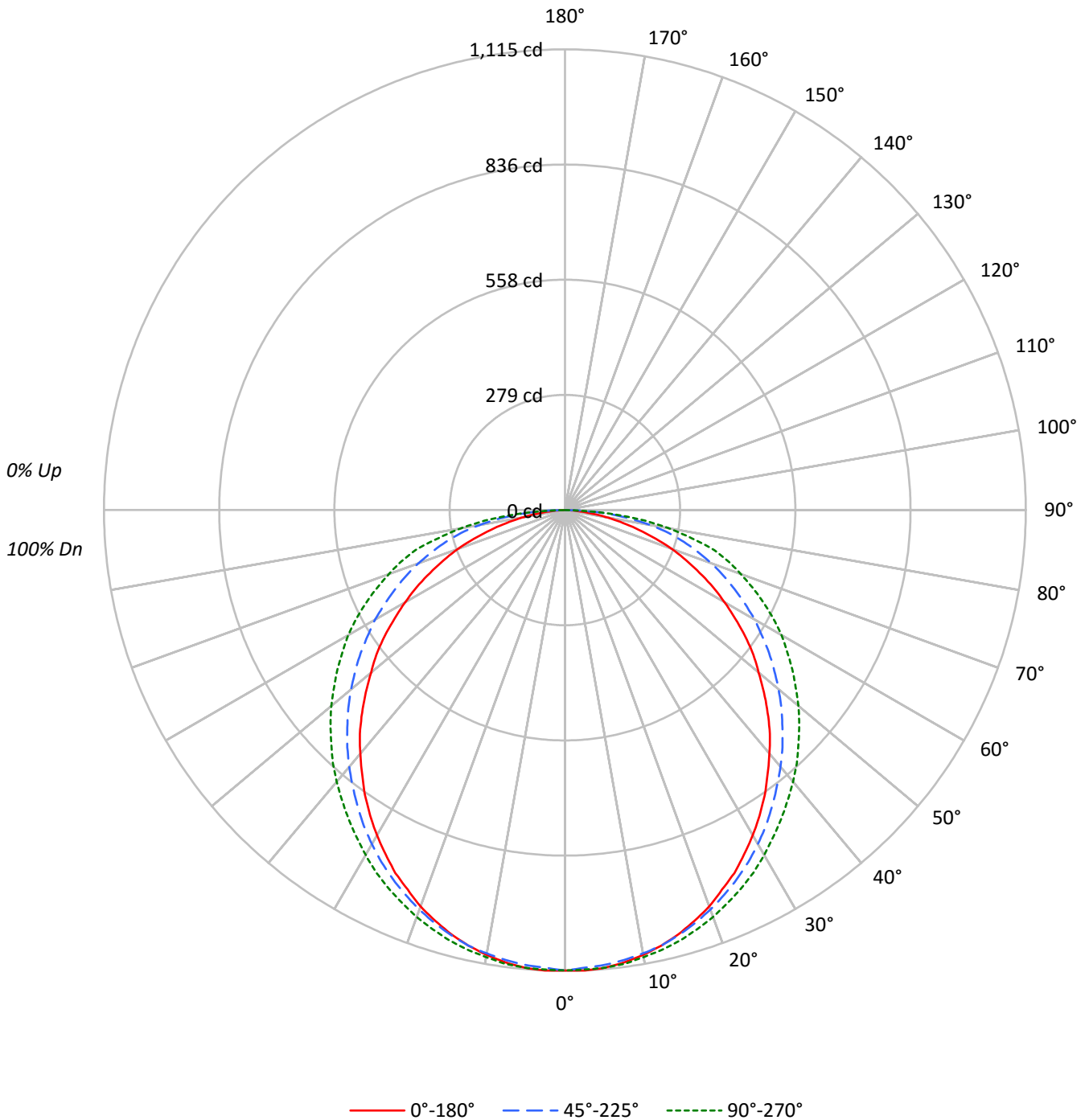
Input Watts (W): 26.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1499	1499	1499
5°	1502	1493	1502
10°	1493	1488	1501
15°	1480	1483	1502
20°	1462	1473	1500
25°	1439	1462	1499
30°	1412	1450	1498
35°	1384	1436	1498
40°	1352	1425	1508
45°	1320	1416	1521
50°	1281	1412	1544
55°	1249	1415	1575
60°	1200	1426	1629
65°	1145	1442	1688
70°	1085	1486	1781
75°	967	1550	1946
80°	825	1641	1989
85°	588	1627	1903



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.4	3.1
10°-20°	301.5	8.9
20°-30°	455.3	13.5
30°-40°	548.8	16.2
40°-50°	576.1	17.1
50°-60°	539.0	16.0
60°-70°	445.1	13.2
70°-80°	303.3	9.0
80°-90°	103.4	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°	862.2	25.5
0°-40°	1411.0	41.8
0°-60°	2526.1	74.8
0°-90°	3378.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3378.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1114	1114	1114	1114	1114	
5°	1112	1111	1105	1112	1112	105
15°	1062	1064	1065	1076	1078	299
25°	970	974	985	1004	1010	446
35°	843	852	874	903	912	527
45°	694	708	744	784	799	535
55°	532	554	603	652	671	475
65°	360	390	453	510	530	357
75°	186	229	298	354	374	198
85°	38	75	105	119	123	48
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1114.0	1114.0	1114.0	1114.0	1114.0
2.5°	1115.2	1114.0	1108.4	1114.0	1112.9
5°	1111.8	1110.7	1105.1	1111.8	1111.8
7.5°	1103.9	1103.9	1098.3	1106.2	1107.3
10°	1092.7	1092.7	1089.4	1098.3	1098.3
12.5°	1079.3	1079.3	1079.3	1088.3	1089.4
15°	1062.5	1063.6	1064.7	1075.9	1078.2
17.5°	1042.3	1044.5	1047.9	1061.4	1063.6
20°	1021.0	1023.3	1028.9	1044.5	1047.9
22.5°	994.1	999.7	1007.6	1025.5	1028.9
25°	969.5	973.9	985.1	1004.2	1009.8
27.5°	939.2	945.9	960.5	980.7	988.5
30°	908.9	915.7	933.6	957.1	963.9
32.5°	876.4	886.5	905.6	930.2	938.1
35°	842.8	851.8	874.2	903.3	912.3
37.5°	805.8	818.2	842.8	874.2	885.4
40°	770.0	783.4	811.4	845.1	858.5
42.5°	734.1	747.5	778.9	817.0	830.5
45°	693.8	708.3	744.2	784.5	799.1
47.5°	653.4	671.3	710.6	753.2	768.8
50°	611.9	632.1	674.7	719.5	737.5
52.5°	574.9	594.0	638.8	687.0	703.8
55°	532.4	553.7	603.0	652.3	671.3
57.5°	488.7	512.2	564.9	618.7	637.7
60°	446.1	471.8	530.1	583.9	605.2
62.5°	404.6	430.4	490.9	546.9	568.2
65°	359.8	390.0	452.8	509.9	530.1
67.5°	317.2	349.7	415.8	471.8	492.0
70°	275.7	307.1	377.7	432.6	452.8
72.5°	230.9	266.7	337.3	394.5	415.8
75°	186.0	228.6	298.1	354.2	374.3
77.5°	144.6	188.3	257.8	303.7	313.8
80°	106.5	151.3	211.8	244.3	256.7
82.5°	68.4	113.2	161.4	184.9	195.0
85°	38.1	75.1	105.4	118.8	123.3
87.5°	15.7	32.5	42.6	48.2	48.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)