

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: P311259

Luminaire Tested: **24FCZ2-35HE-UNV-L82765-S-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: P311259
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: 24FCZ2-35HE-UNV-L82765-S-CA08-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH 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: 3434.0 lumens
Efficiency: N/A
Efficacy: 129.6 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

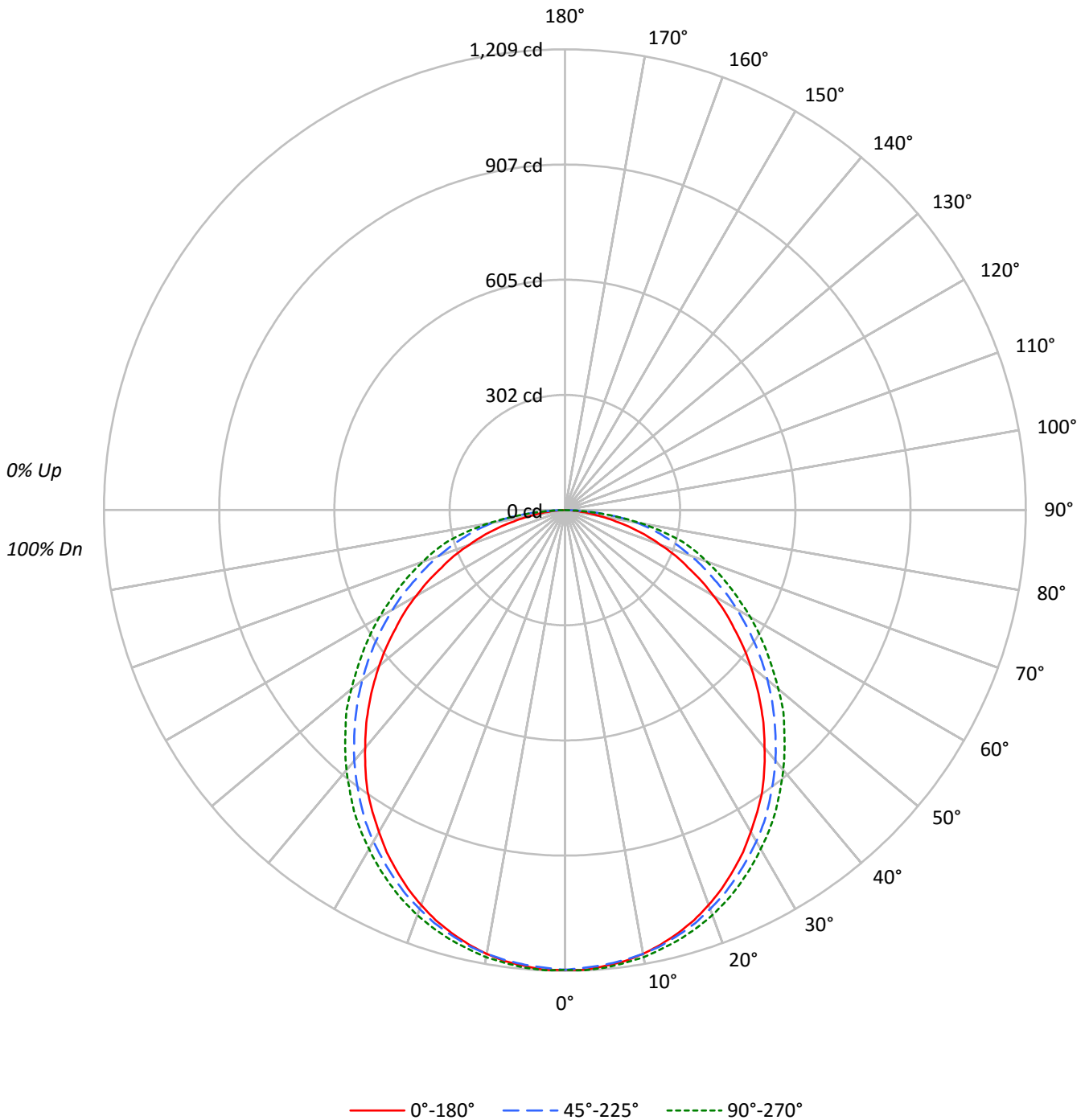
Input Watts (W): 26.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1623	1623	1623
5°	1622	1618	1628
10°	1615	1615	1627
15°	1600	1607	1624
20°	1579	1595	1620
25°	1550	1579	1610
30°	1515	1561	1596
35°	1482	1535	1584
40°	1431	1510	1565
45°	1384	1480	1548
50°	1331	1452	1530
55°	1272	1425	1515
60°	1212	1403	1512
65°	1136	1379	1521
70°	1051	1386	1562
75°	941	1412	1650
80°	761	1496	1614
85°	573	1314	1280



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	114.2	3.3
10°-20°	326.3	9.5
20°-30°	490.6	14.3
30°-40°	584.3	17.0
40°-50°	598.0	17.4
50°-60°	538.4	15.7
60°-70°	422.8	12.3
70°-80°	274.4	8.0
80°-90°	84.9	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°	931.1	27.1
0°-40°	1515.4	44.1
0°-60°	2651.9	77.2
0°-90°	3434.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3434.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1206	1206	1206	1206	1206	
5°	1201	1203	1198	1204	1205	114
15°	1149	1152	1154	1164	1166	324
25°	1044	1053	1064	1081	1084	481
35°	902	913	935	958	964	563
45°	728	745	778	807	814	561
55°	542	566	608	639	646	486
65°	357	384	433	469	478	355
75°	181	216	272	309	317	192
85°	37	69	85	83	83	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1206.4	1206.4	1206.4	1206.4	1206.4
2.5°	1207.5	1207.5	1202.0	1207.5	1208.6
5°	1200.9	1203.1	1197.7	1204.2	1205.3
7.5°	1194.4	1194.4	1191.1	1197.7	1198.8
10°	1182.4	1183.5	1182.4	1190.0	1191.1
12.5°	1167.1	1169.3	1170.4	1178.0	1179.1
15°	1148.6	1151.8	1154.0	1163.8	1166.0
17.5°	1127.9	1131.1	1136.6	1147.5	1149.7
20°	1102.8	1107.1	1113.7	1127.9	1131.1
22.5°	1075.5	1079.9	1090.8	1103.9	1109.3
25°	1043.9	1052.6	1063.5	1080.9	1084.2
27.5°	1012.2	1019.9	1034.0	1052.6	1057.0
30°	975.1	987.1	1004.6	1023.1	1027.5
32.5°	939.1	951.1	971.9	991.5	997.0
35°	902.1	913.0	934.8	957.7	964.2
37.5°	859.5	873.7	897.7	920.6	927.2
40°	814.8	832.3	859.5	883.5	891.2
42.5°	772.3	790.8	818.1	844.3	853.0
45°	727.5	745.0	777.7	807.2	813.7
47.5°	681.7	701.4	736.3	765.7	776.6
50°	635.9	656.6	693.7	724.3	730.8
52.5°	590.1	611.9	651.2	683.9	687.2
55°	542.1	566.1	607.6	639.2	645.7
57.5°	498.5	519.2	563.9	596.6	604.3
60°	450.5	473.4	521.4	551.9	561.7
62.5°	404.7	428.7	478.8	509.4	518.1
65°	356.7	383.9	433.0	469.0	477.8
67.5°	315.2	341.4	393.8	428.7	437.4
70°	267.2	296.7	352.3	388.3	397.0
72.5°	225.8	256.3	312.0	346.9	360.0
75°	181.1	216.0	271.6	308.7	317.4
77.5°	137.4	177.8	234.5	262.9	262.9
80°	98.2	140.7	193.1	206.2	208.3
82.5°	64.4	105.8	142.9	141.8	141.8
85°	37.1	68.7	85.1	82.9	82.9
87.5°	14.2	28.4	30.5	30.5	29.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)