

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: P309507

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-HRP-CA08-W2A-U-5700K**

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: P309507
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-50HE-UNV-L82765-HRP-CA08-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 5700K 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: 3634.0 lumens
Efficiency: N/A
Efficacy: 92.0 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

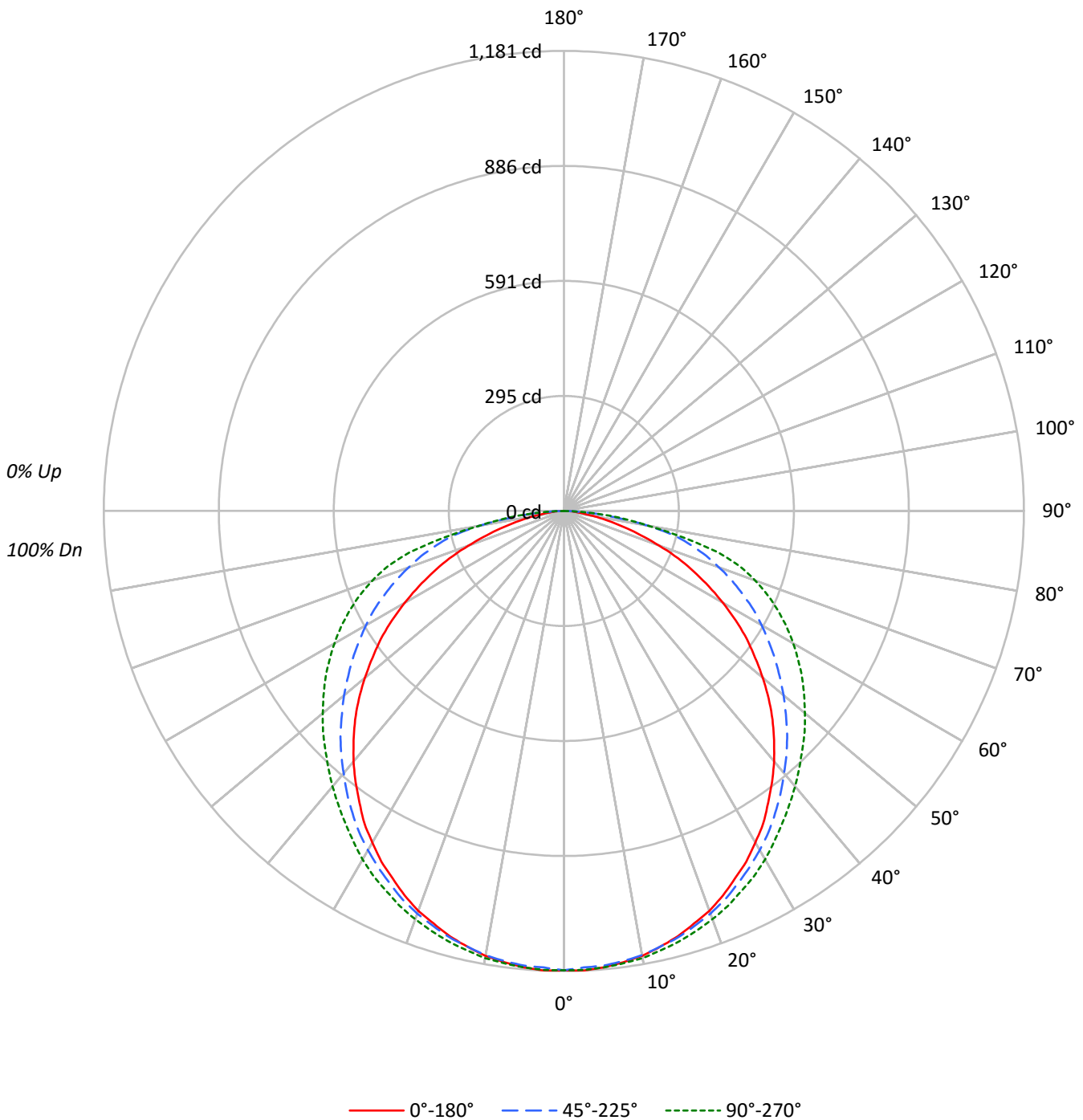
Input Watts (W): 39.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	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	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1586	1586	1586
5°	1588	1582	1588
10°	1584	1582	1592
15°	1575	1579	1594
20°	1564	1575	1597
25°	1545	1567	1599
30°	1527	1562	1605
35°	1502	1554	1607
40°	1475	1544	1622
45°	1442	1543	1647
50°	1395	1541	1691
55°	1346	1552	1752
60°	1269	1576	1830
65°	1172	1613	1933
70°	1024	1670	2059
75°	830	1756	2127
80°	613	1721	1721
85°	469	1269	1433



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.7	3.1
10°-20°	320.7	8.8
20°-30°	488.3	13.4
30°-40°	592.9	16.3
40°-50°	626.4	17.2
50°-60°	591.1	16.3
60°-70°	491.5	13.5
70°-80°	323.3	8.9
80°-90°	88.1	2.4
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°	920.7	25.3
0°-40°	1513.6	41.7
0°-60°	2731.1	75.2
0°-90°	3634.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3634.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1179	1179	1179	1179	1179	
5°	1176	1176	1171	1176	1176	112
15°	1130	1132	1133	1144	1144	319
25°	1041	1047	1056	1074	1077	480
35°	914	925	946	971	978	572
45°	758	773	811	850	866	583
55°	574	598	662	724	747	511
65°	368	411	507	581	607	364
75°	160	233	338	400	409	172
85°	30	67	82	91	93	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1179.1	1179.1	1179.1	1179.1	1179.1
2.5°	1180.6	1179.1	1173.0	1179.1	1179.1
5°	1176.0	1176.0	1171.4	1176.0	1176.0
7.5°	1168.4	1168.4	1165.4	1171.4	1171.4
10°	1159.3	1159.3	1157.8	1165.4	1165.4
12.5°	1145.6	1147.1	1145.6	1154.7	1154.7
15°	1130.4	1131.9	1133.4	1144.1	1144.1
17.5°	1110.6	1113.6	1116.7	1128.8	1130.4
20°	1092.3	1093.9	1099.9	1113.6	1115.2
22.5°	1068.0	1072.6	1080.2	1093.9	1098.4
25°	1040.6	1046.7	1055.8	1074.1	1077.1
27.5°	1014.7	1019.3	1031.5	1051.3	1057.3
30°	982.8	990.4	1005.6	1025.4	1033.0
32.5°	952.4	960.0	978.2	999.5	1005.6
35°	914.3	925.0	946.3	970.6	978.2
37.5°	877.8	888.5	914.3	941.7	950.9
40°	839.8	852.0	879.3	911.3	923.5
42.5°	798.7	815.4	845.9	880.9	894.6
45°	757.6	772.9	810.9	850.4	865.7
47.5°	713.5	731.8	772.9	820.0	838.3
50°	666.4	689.2	736.3	788.1	807.8
52.5°	619.2	645.1	698.3	756.1	777.4
55°	573.6	597.9	661.8	724.2	747.0
57.5°	523.3	553.8	623.8	690.7	713.5
60°	471.6	505.1	585.7	655.7	680.0
62.5°	419.9	457.9	549.2	619.2	645.1
65°	368.2	410.8	506.6	581.2	607.0
67.5°	318.0	365.1	467.1	541.6	567.5
70°	260.2	319.5	424.5	497.5	523.3
72.5°	206.9	275.4	383.4	451.8	474.7
75°	159.7	232.8	337.7	400.1	409.2
77.5°	117.1	190.2	290.6	311.9	313.4
80°	79.1	152.1	222.1	219.1	222.1
82.5°	51.7	114.1	140.0	156.7	158.2
85°	30.4	66.9	82.2	91.3	92.8
87.5°	15.2	22.8	28.9	30.4	33.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)