

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: P313892

Luminaire Tested: **24FCZ2-40HE-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: P313892
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: 24FCZ2-40HE-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: 3910.0 lumens
Efficiency: N/A
Efficacy: 125.7 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

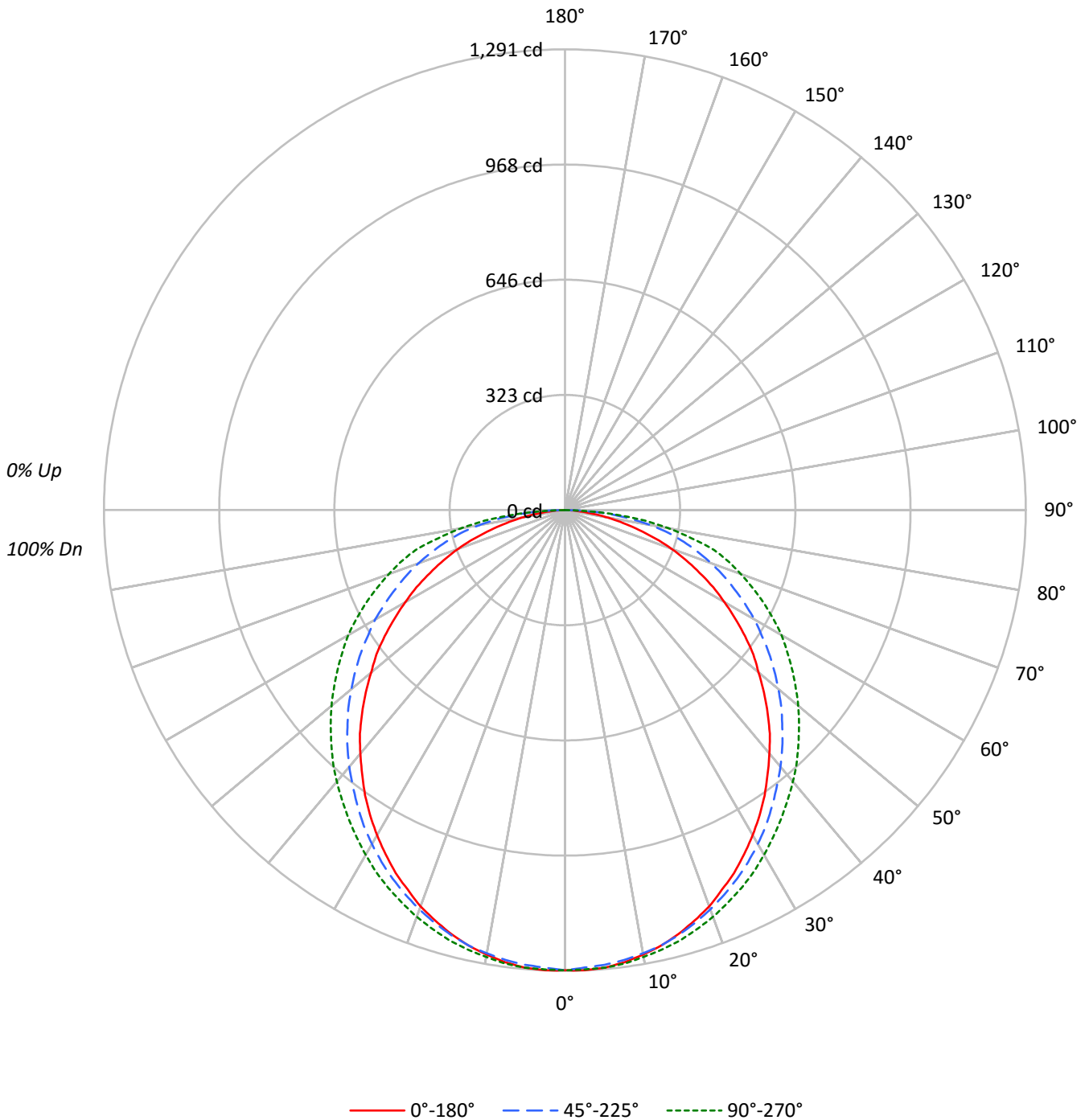
Input Watts (W): 31.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1735	1735	1735
5°	1738	1728	1738
10°	1728	1723	1737
15°	1713	1717	1738
20°	1692	1705	1737
25°	1666	1693	1735
30°	1635	1679	1733
35°	1602	1662	1735
40°	1565	1650	1745
45°	1528	1639	1760
50°	1483	1635	1787
55°	1445	1637	1823
60°	1389	1651	1885
65°	1326	1669	1954
70°	1255	1720	2062
75°	1119	1794	2253
80°	955	1900	2302
85°	681	1882	2203



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.0	3.1
10°-20°	348.9	8.9
20°-30°	527.0	13.5
30°-40°	635.2	16.2
40°-50°	666.9	17.1
50°-60°	623.9	16.0
60°-70°	515.2	13.2
70°-80°	351.1	9.0
80°-90°	119.7	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°	998.0	25.5
0°-40°	1633.2	41.8
0°-60°	2924.0	74.8
0°-90°	3910.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3910.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1290	1290	1290	1290	1290	
5°	1287	1286	1279	1287	1287	122
15°	1230	1231	1232	1245	1248	347
25°	1122	1127	1140	1162	1169	516
35°	976	986	1012	1046	1056	610
45°	803	820	861	908	925	619
55°	616	641	698	755	777	550
65°	416	451	524	590	614	413
75°	215	265	345	410	433	230
85°	44	87	122	138	143	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1289.5	1289.5	1289.5	1289.5	1289.5
2.5°	1290.8	1289.5	1283.0	1289.5	1288.2
5°	1286.9	1285.6	1279.1	1286.9	1286.9
7.5°	1277.8	1277.8	1271.3	1280.4	1281.7
10°	1264.8	1264.8	1260.9	1271.3	1271.3
12.5°	1249.3	1249.3	1249.3	1259.6	1260.9
15°	1229.8	1231.1	1232.4	1245.4	1248.0
17.5°	1206.5	1209.1	1212.9	1228.5	1231.1
20°	1181.8	1184.4	1190.9	1209.1	1212.9
22.5°	1150.7	1157.2	1166.2	1187.0	1190.9
25°	1122.1	1127.3	1140.3	1162.4	1168.8
27.5°	1087.1	1094.9	1111.8	1135.1	1144.2
30°	1052.1	1059.9	1080.6	1107.9	1115.7
32.5°	1014.5	1026.1	1048.2	1076.7	1085.8
35°	975.5	985.9	1011.9	1045.6	1056.0
37.5°	932.7	947.0	975.5	1011.9	1024.8
40°	891.2	906.8	939.2	978.1	993.7
42.5°	849.7	865.3	901.6	945.7	961.3
45°	803.0	819.9	861.4	908.1	925.0
47.5°	756.3	777.1	822.5	871.8	889.9
50°	708.3	731.7	781.0	832.8	853.6
52.5°	665.5	687.6	739.4	795.2	814.7
55°	616.2	640.9	697.9	755.0	777.1
57.5°	565.6	592.9	653.8	716.1	738.1
60°	516.3	546.1	613.6	675.9	700.5
62.5°	468.3	498.2	568.2	633.1	657.7
65°	416.4	451.4	524.1	590.3	613.6
67.5°	367.1	404.7	481.3	546.1	569.5
70°	319.1	355.5	437.2	500.7	524.1
72.5°	267.2	308.7	390.5	456.6	481.3
75°	215.3	264.6	345.1	409.9	433.3
77.5°	167.3	217.9	298.4	351.6	363.2
80°	123.2	175.1	245.2	282.8	297.1
82.5°	79.1	131.0	186.8	214.0	225.7
85°	44.1	86.9	121.9	137.5	142.7
87.5°	18.2	37.6	49.3	55.8	55.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)