

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: P311347

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-S-CA08-W2A-U-3500K**

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: P311347
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: 24FCZ2-40HE-UNV-L82765-S-CA08-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 3500K 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: 3822.0 lumens
Efficiency: N/A
Efficacy: 125.3 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

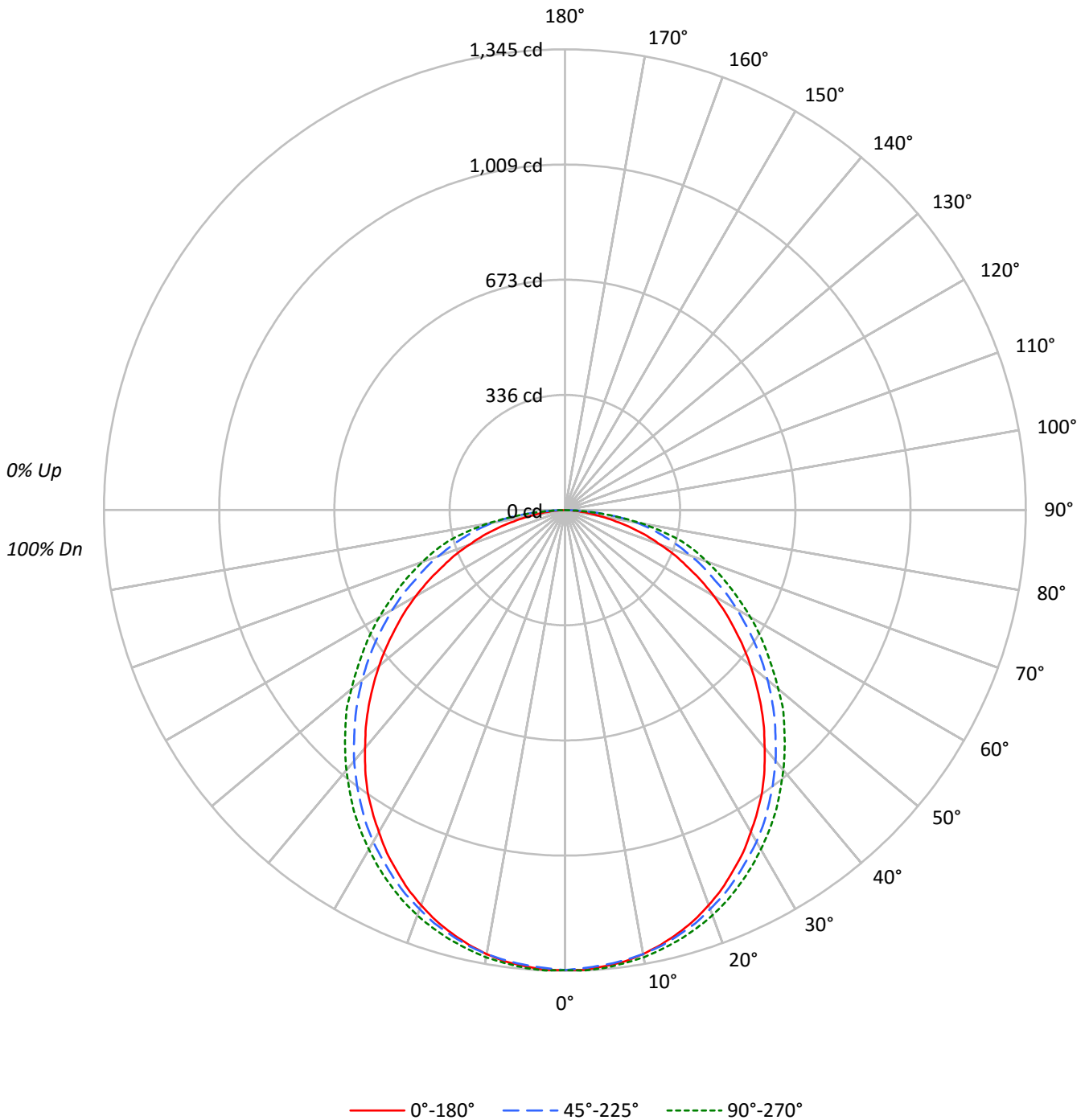
Input Watts (W): 30.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1807	1807	1807
5°	1805	1800	1812
10°	1798	1798	1811
15°	1781	1789	1808
20°	1757	1775	1803
25°	1725	1757	1791
30°	1686	1737	1777
35°	1649	1709	1763
40°	1593	1680	1742
45°	1541	1647	1723
50°	1482	1616	1703
55°	1415	1586	1686
60°	1349	1562	1682
65°	1264	1535	1693
70°	1170	1543	1738
75°	1048	1572	1837
80°	847	1665	1797
85°	638	1462	1425



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	127.1	3.3
10°-20°	363.2	9.5
20°-30°	546.0	14.3
30°-40°	650.3	17.0
40°-50°	665.6	17.4
50°-60°	599.3	15.7
60°-70°	470.6	12.3
70°-80°	305.4	8.0
80°-90°	94.5	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°	1036.3	27.1
0°-40°	1686.7	44.1
0°-60°	2951.5	77.2
0°-90°	3822.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3822.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1343	1343	1343	1343	1343	
5°	1337	1339	1333	1340	1342	127
15°	1278	1282	1284	1295	1298	360
25°	1162	1172	1184	1203	1207	535
35°	1004	1016	1040	1066	1073	626
45°	810	829	866	898	906	624
55°	603	630	676	711	719	541
65°	397	427	482	522	532	395
75°	202	240	302	344	353	213
85°	41	76	95	92	92	50
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1342.7	1342.7	1342.7	1342.7	1342.7
2.5°	1343.9	1343.9	1337.8	1343.9	1345.1
5°	1336.6	1339.1	1333.0	1340.3	1341.5
7.5°	1329.3	1329.3	1325.7	1333.0	1334.2
10°	1316.0	1317.2	1316.0	1324.5	1325.7
12.5°	1299.0	1301.4	1302.6	1311.1	1312.3
15°	1278.4	1282.0	1284.4	1295.3	1297.8
17.5°	1255.3	1258.9	1265.0	1277.1	1279.6
20°	1227.4	1232.2	1239.5	1255.3	1258.9
22.5°	1197.0	1201.9	1214.0	1228.6	1234.6
25°	1161.8	1171.5	1183.7	1203.1	1206.7
27.5°	1126.6	1135.1	1150.9	1171.5	1176.4
30°	1085.3	1098.7	1118.1	1138.7	1143.6
32.5°	1045.3	1058.6	1081.7	1103.5	1109.6
35°	1004.0	1016.1	1040.4	1065.9	1073.2
37.5°	956.6	972.4	999.1	1024.6	1031.9
40°	906.9	926.3	956.6	983.3	991.8
42.5°	859.5	880.2	910.5	939.6	949.4
45°	809.7	829.2	865.6	898.4	905.7
47.5°	758.8	780.6	819.5	852.2	864.4
50°	707.8	730.8	772.1	806.1	813.4
52.5°	656.8	681.1	724.8	761.2	764.8
55°	603.4	630.1	676.2	711.4	718.7
57.5°	554.8	577.9	627.6	664.1	672.6
60°	501.4	526.9	580.3	614.3	625.2
62.5°	450.4	477.1	532.9	566.9	576.7
65°	397.0	427.3	482.0	522.0	531.7
67.5°	350.8	380.0	438.3	477.1	486.8
70°	297.4	330.2	392.1	432.2	441.9
72.5°	251.3	285.3	347.2	386.1	400.6
75°	201.5	240.4	302.3	343.6	353.3
77.5°	153.0	197.9	261.0	292.6	292.6
80°	109.3	156.6	214.9	229.4	231.9
82.5°	71.6	117.8	159.0	157.8	157.8
85°	41.3	76.5	94.7	92.3	92.3
87.5°	15.8	31.6	34.0	34.0	32.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)