

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: P313894

Luminaire Tested: **24FCZ2-40HE-UNV-L83050-CA08-W2A-U-5000K**

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: P313894
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-5000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 5000K 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: 3947.0 lumens
Efficiency: N/A
Efficacy: 123.7 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

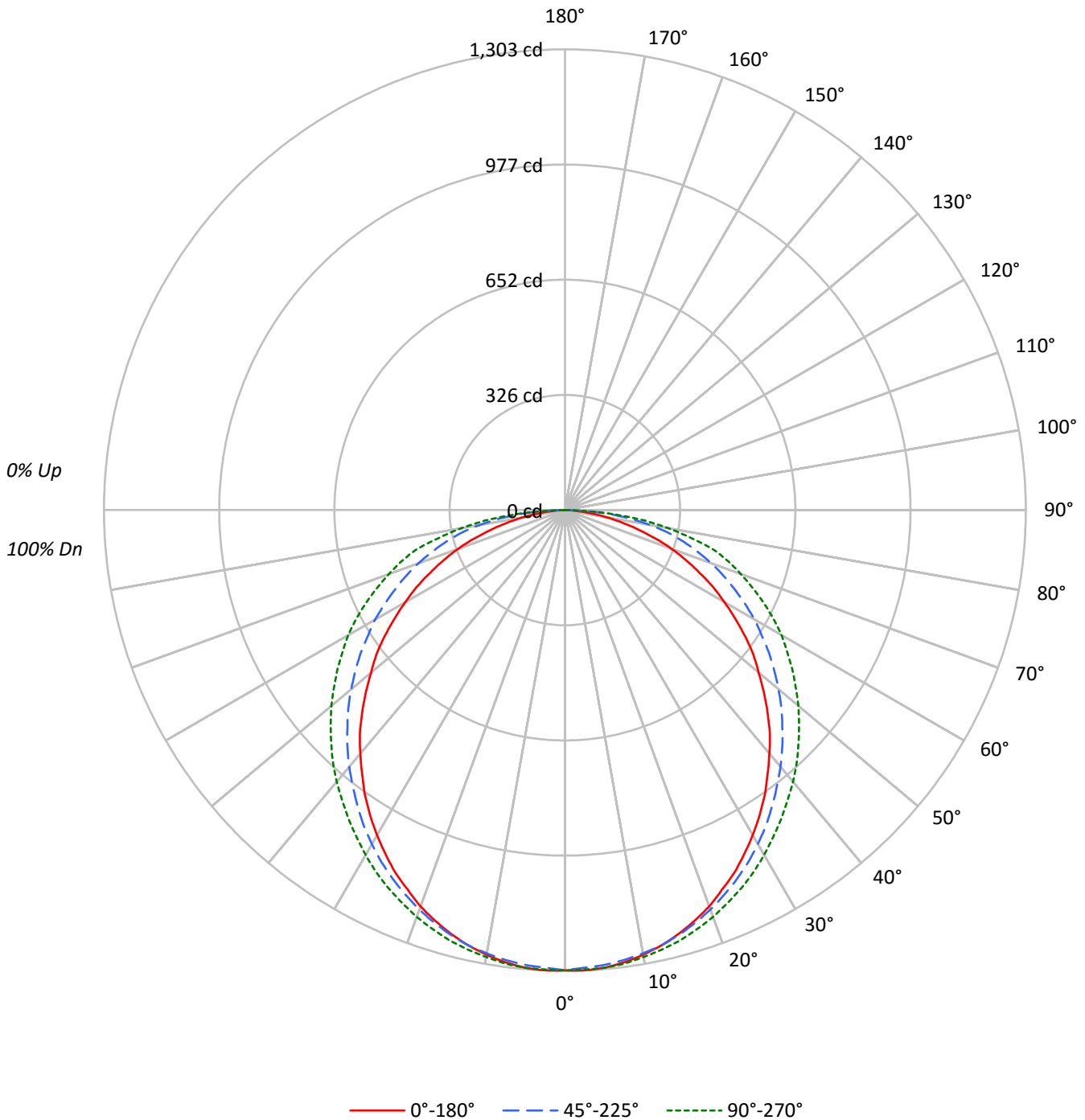
Input Watts (W): 31.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1751	1751	1751
5°	1755	1744	1755
10°	1744	1739	1753
15°	1729	1733	1755
20°	1708	1721	1753
25°	1682	1709	1752
30°	1650	1695	1750
35°	1618	1678	1751
40°	1580	1665	1762
45°	1542	1654	1777
50°	1497	1650	1804
55°	1459	1653	1840
60°	1403	1667	1903
65°	1338	1684	1972
70°	1267	1736	2081
75°	1130	1811	2274
80°	964	1918	2324
85°	687	1900	2223



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	123.2	3.1
10°-20°	352.2	8.9
20°-30°	532.0	13.5
30°-40°	641.2	16.2
40°-50°	673.2	17.1
50°-60°	629.8	16.0
60°-70°	520.1	13.2
70°-80°	354.4	9.0
80°-90°	120.9	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°	1007.5	25.5
0°-40°	1648.7	41.8
0°-60°	2951.7	74.8
0°-90°	3947.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3947.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1302	1302	1302	1302	1302	
5°	1299	1298	1291	1299	1299	123
15°	1241	1243	1244	1257	1260	350
25°	1133	1138	1151	1173	1180	521
35°	985	995	1021	1056	1066	615
45°	811	828	870	917	934	625
55°	622	647	704	762	784	555
65°	420	456	529	596	619	417
75°	217	267	348	414	437	232
85°	44	88	123	139	144	56
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1301.7	1301.7	1301.7	1301.7	1301.7
2.5°	1303.0	1301.7	1295.1	1301.7	1300.4
5°	1299.1	1297.8	1291.2	1299.1	1299.1
7.5°	1289.9	1289.9	1283.4	1292.5	1293.8
10°	1276.8	1276.8	1272.9	1283.4	1283.4
12.5°	1261.1	1261.1	1261.1	1271.6	1272.9
15°	1241.4	1242.8	1244.1	1257.2	1259.8
17.5°	1217.9	1220.5	1224.4	1240.1	1242.8
20°	1193.0	1195.6	1202.2	1220.5	1224.4
22.5°	1161.6	1168.1	1177.3	1198.2	1202.2
25°	1132.8	1138.0	1151.1	1173.4	1179.9
27.5°	1097.4	1105.3	1122.3	1145.9	1155.0
30°	1062.0	1069.9	1090.8	1118.4	1126.2
32.5°	1024.1	1035.8	1058.1	1086.9	1096.1
35°	984.8	995.3	1021.4	1055.5	1066.0
37.5°	941.6	956.0	984.8	1021.4	1034.5
40°	899.7	915.4	948.1	987.4	1003.1
42.5°	857.8	873.5	910.1	954.7	970.4
45°	810.6	827.6	869.5	916.7	933.7
47.5°	763.5	784.4	830.3	880.0	898.3
50°	715.0	738.6	788.3	840.7	861.7
52.5°	671.8	694.1	746.4	802.8	822.4
55°	622.0	646.9	704.5	762.2	784.4
57.5°	571.0	598.5	660.0	722.9	745.1
60°	521.2	551.3	619.4	682.3	707.2
62.5°	472.7	502.9	573.6	639.1	663.9
65°	420.4	455.7	529.1	595.8	619.4
67.5°	370.6	408.6	485.8	551.3	574.9
70°	322.1	358.8	441.3	505.5	529.1
72.5°	269.8	311.7	394.2	461.0	485.8
75°	217.4	267.1	348.3	413.8	437.4
77.5°	168.9	220.0	301.2	354.9	366.7
80°	124.4	176.8	247.5	285.5	299.9
82.5°	79.9	132.3	188.6	216.1	227.9
85°	44.5	87.7	123.1	138.8	144.0
87.5°	18.3	38.0	49.8	56.3	56.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)