

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: P310678

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-CA08-W2A-U-6500K**

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: P310678
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-L82765-CA08-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 6500K 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: 3892.0 lumens
Efficiency: N/A
Efficacy: 122.4 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

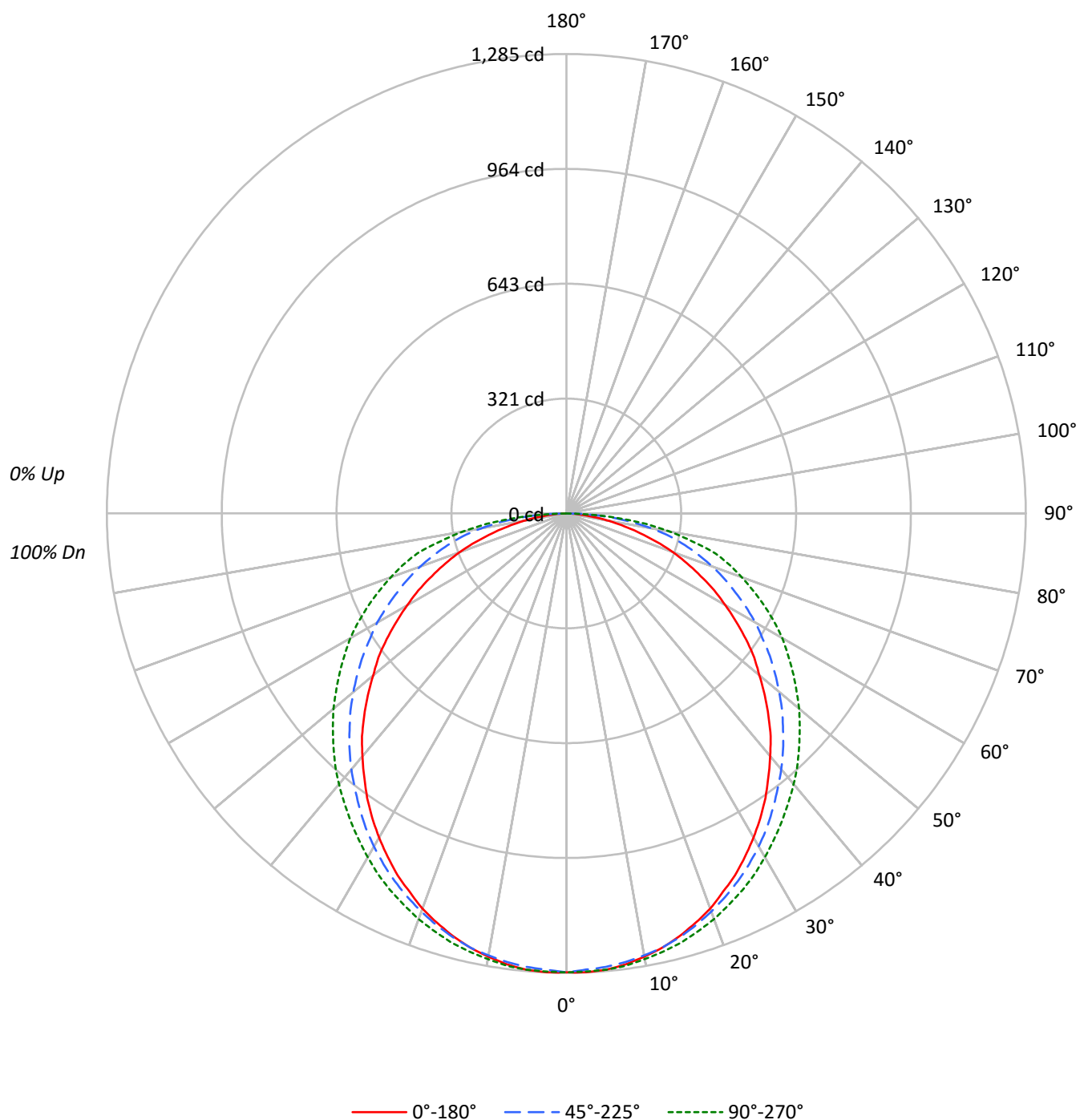
Input Watts (W): 31.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	100	96	92	96	92	89		92	89	87		82
2	98	89	81	75	95	87	80	74	83	78	73		80	75	71		67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		56
4	81	68	59	52	79	67	58	52	64	57	51		62	56	50		47
5	74	61	52	45	72	60	51	44	58	50	44		56	49	43		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	64	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	37	31	57	45	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1727	1727	1727
5°	1730	1720	1730
10°	1720	1715	1729
15°	1705	1709	1730
20°	1684	1697	1729
25°	1658	1685	1727
30°	1627	1671	1725
35°	1595	1654	1726
40°	1558	1642	1737
45°	1521	1631	1752
50°	1476	1627	1779
55°	1439	1630	1814
60°	1383	1644	1876
65°	1320	1661	1945
70°	1250	1712	2052
75°	1115	1786	2242
80°	951	1891	2291
85°	678	1874	2192



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.5	3.1
10°-20°	347.3	8.9
20°-30°	524.6	13.5
30°-40°	632.3	16.2
40°-50°	663.8	17.1
50°-60°	621.0	16.0
60°-70°	512.9	13.2
70°-80°	349.5	9.0
80°-90°	119.2	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°	993.4	25.5
0°-40°	1625.7	41.8
0°-60°	2910.5	74.8
0°-90°	3892.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3892.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1284	1284	1284	1284	1284	
5°	1281	1280	1273	1281	1281	122
15°	1224	1225	1227	1240	1242	345
25°	1117	1122	1135	1157	1164	514
35°	971	981	1007	1041	1051	607
45°	799	816	857	904	921	616
55°	613	638	695	752	774	547
65°	414	449	522	588	611	411
75°	214	263	344	408	431	229
85°	44	86	121	137	142	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1283.5	1283.5	1283.5	1283.5	1283.5
2.5°	1284.8	1283.5	1277.1	1283.5	1282.3
5°	1281.0	1279.7	1273.2	1281.0	1281.0
7.5°	1271.9	1271.9	1265.5	1274.5	1275.8
10°	1259.0	1259.0	1255.1	1265.5	1265.5
12.5°	1243.5	1243.5	1243.5	1253.8	1255.1
15°	1224.1	1225.4	1226.7	1239.6	1242.2
17.5°	1200.9	1203.5	1207.4	1222.9	1225.4
20°	1176.4	1179.0	1185.4	1203.5	1207.4
22.5°	1145.4	1151.8	1160.9	1181.5	1185.4
25°	1117.0	1122.1	1135.0	1157.0	1163.5
27.5°	1082.1	1089.9	1106.6	1129.9	1138.9
30°	1047.2	1055.0	1075.6	1102.8	1110.5
32.5°	1009.8	1021.4	1043.4	1071.8	1080.8
35°	971.1	981.4	1007.2	1040.8	1051.1
37.5°	928.4	942.6	971.1	1007.2	1020.1
40°	887.1	902.6	934.9	973.6	989.1
42.5°	845.8	861.3	897.5	941.4	956.8
45°	799.3	816.1	857.4	903.9	920.7
47.5°	752.8	773.5	818.7	867.8	885.8
50°	705.0	728.3	777.4	829.0	849.7
52.5°	662.4	684.4	736.0	791.6	810.9
55°	613.4	637.9	694.7	751.5	773.5
57.5°	563.0	590.1	650.8	712.8	734.7
60°	513.9	543.6	610.8	672.8	697.3
62.5°	466.2	495.9	565.6	630.2	654.7
65°	414.5	449.4	521.7	587.5	610.8
67.5°	365.4	402.9	479.1	543.6	566.9
70°	317.7	353.8	435.2	498.4	521.7
72.5°	266.0	307.3	388.7	454.5	479.1
75°	214.4	263.4	343.5	408.0	431.3
77.5°	166.6	216.9	297.0	349.9	361.6
80°	122.7	174.3	244.1	281.5	295.7
82.5°	78.8	130.4	185.9	213.1	224.7
85°	43.9	86.5	121.4	136.9	142.0
87.5°	18.1	37.4	49.1	55.5	55.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)