

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: P310674

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-CA08-W2A-U-4500K**

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: P310674
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-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 4500K 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: 3783.0 lumens
Efficiency: N/A
Efficacy: 122.0 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

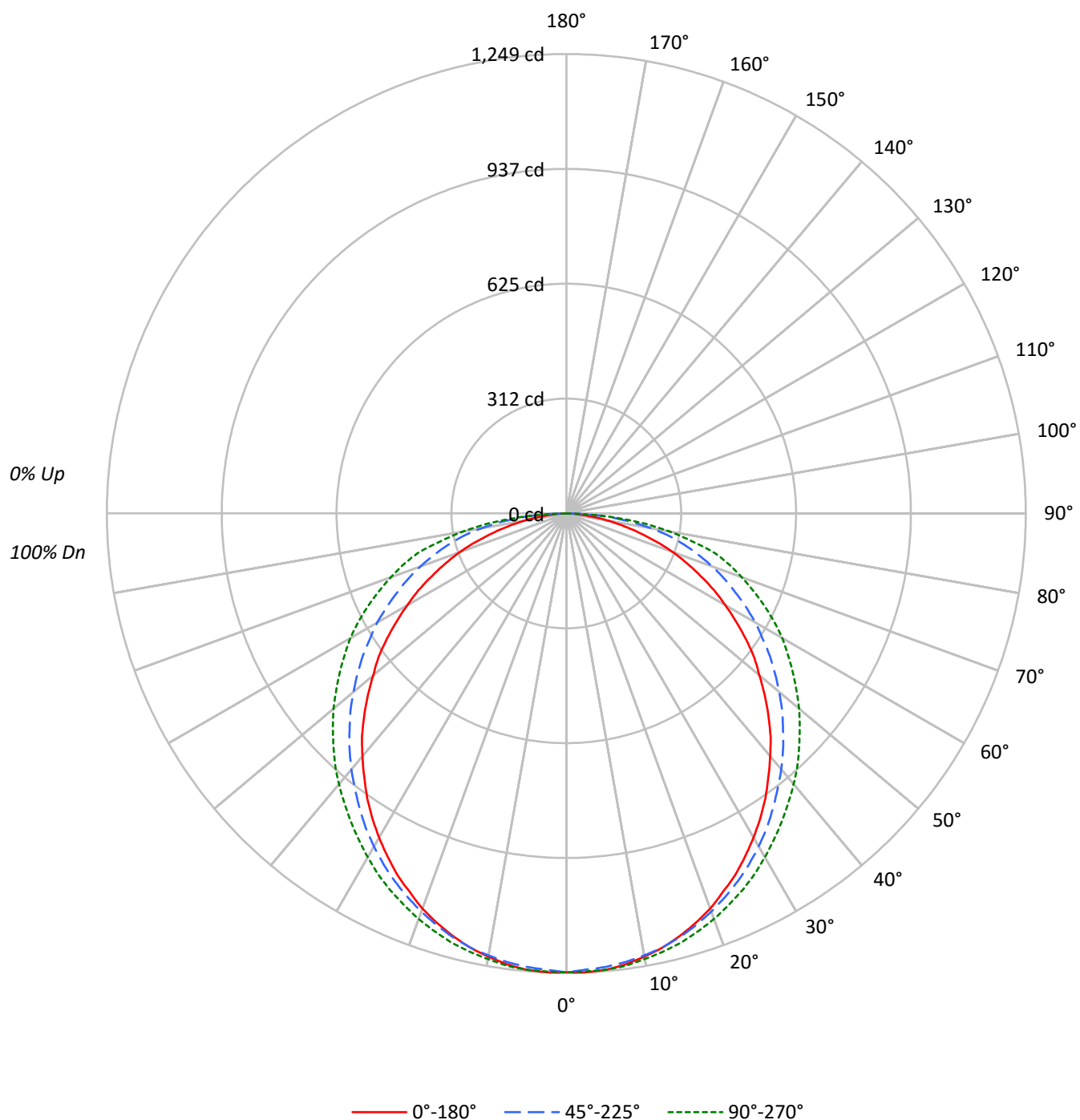
Input Watts (W): 31
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1679	1679	1679
5°	1682	1672	1682
10°	1672	1667	1680
15°	1657	1661	1682
20°	1637	1650	1680
25°	1612	1638	1679
30°	1581	1624	1677
35°	1550	1608	1678
40°	1515	1596	1689
45°	1478	1586	1703
50°	1434	1582	1729
55°	1399	1584	1764
60°	1344	1598	1824
65°	1283	1614	1890
70°	1215	1664	1995
75°	1083	1736	2179
80°	924	1838	2227
85°	659	1822	2132



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.1	3.1
10°-20°	337.6	8.9
20°-30°	509.9	13.5
30°-40°	614.6	16.2
40°-50°	645.2	17.1
50°-60°	603.6	16.0
60°-70°	498.5	13.2
70°-80°	339.7	9.0
80°-90°	115.8	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°	965.6	25.5
0°-40°	1580.2	41.8
0°-60°	2829.0	74.8
0°-90°	3783.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3783.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1248	1248	1248	1248	1248	
5°	1245	1244	1238	1245	1245	118
15°	1190	1191	1192	1205	1207	335
25°	1086	1091	1103	1125	1131	500
35°	944	954	979	1012	1022	590
45°	777	793	833	879	895	599
55°	596	620	675	730	752	532
65°	403	437	507	571	594	400
75°	208	256	334	397	419	222
85°	43	84	118	133	138	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1247.6	1247.6	1247.6	1247.6	1247.6
2.5°	1248.9	1247.6	1241.3	1247.6	1246.3
5°	1245.1	1243.8	1237.6	1245.1	1245.1
7.5°	1236.3	1236.3	1230.0	1238.8	1240.1
10°	1223.8	1223.8	1220.0	1230.0	1230.0
12.5°	1208.7	1208.7	1208.7	1218.7	1220.0
15°	1189.9	1191.1	1192.4	1204.9	1207.4
17.5°	1167.3	1169.8	1173.5	1188.6	1191.1
20°	1143.4	1145.9	1152.2	1169.8	1173.5
22.5°	1113.3	1119.6	1128.4	1148.4	1152.2
25°	1085.7	1090.7	1103.3	1124.6	1130.9
27.5°	1051.8	1059.3	1075.6	1098.2	1107.0
30°	1017.9	1025.4	1045.5	1071.9	1079.4
32.5°	981.5	992.8	1014.1	1041.8	1050.5
35°	943.9	953.9	979.0	1011.6	1021.7
37.5°	902.4	916.2	943.9	979.0	991.6
40°	862.3	877.3	908.7	946.4	961.4
42.5°	822.1	837.2	872.3	915.0	930.1
45°	776.9	793.2	833.4	878.6	894.9
47.5°	731.7	751.8	795.8	843.4	861.0
50°	685.3	707.9	755.6	805.8	825.9
52.5°	643.9	665.2	715.4	769.4	788.2
55°	596.2	620.0	675.3	730.5	751.8
57.5°	547.2	573.6	632.6	692.8	714.2
60°	499.5	528.4	593.7	653.9	677.8
62.5°	453.1	482.0	549.7	612.5	636.4
65°	402.9	436.8	507.1	571.1	593.7
67.5°	355.2	391.6	465.7	528.4	551.0
70°	308.8	343.9	423.0	484.5	507.1
72.5°	258.6	298.7	377.8	441.8	465.7
75°	208.4	256.0	333.9	396.6	419.2
77.5°	161.9	210.9	288.7	340.1	351.4
80°	119.2	169.4	237.2	273.6	287.4
82.5°	76.6	126.8	180.7	207.1	218.4
85°	42.7	84.1	118.0	133.0	138.1
87.5°	17.6	36.4	47.7	54.0	54.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)