

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: P310680

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-CA125-W2A-U-3000K**

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: P310680
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-CA125-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" ACRYLIC SHEET
Light Source: (336) 3000K 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: 3503.0 lumens
Efficiency: N/A
Efficacy: 116.0 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

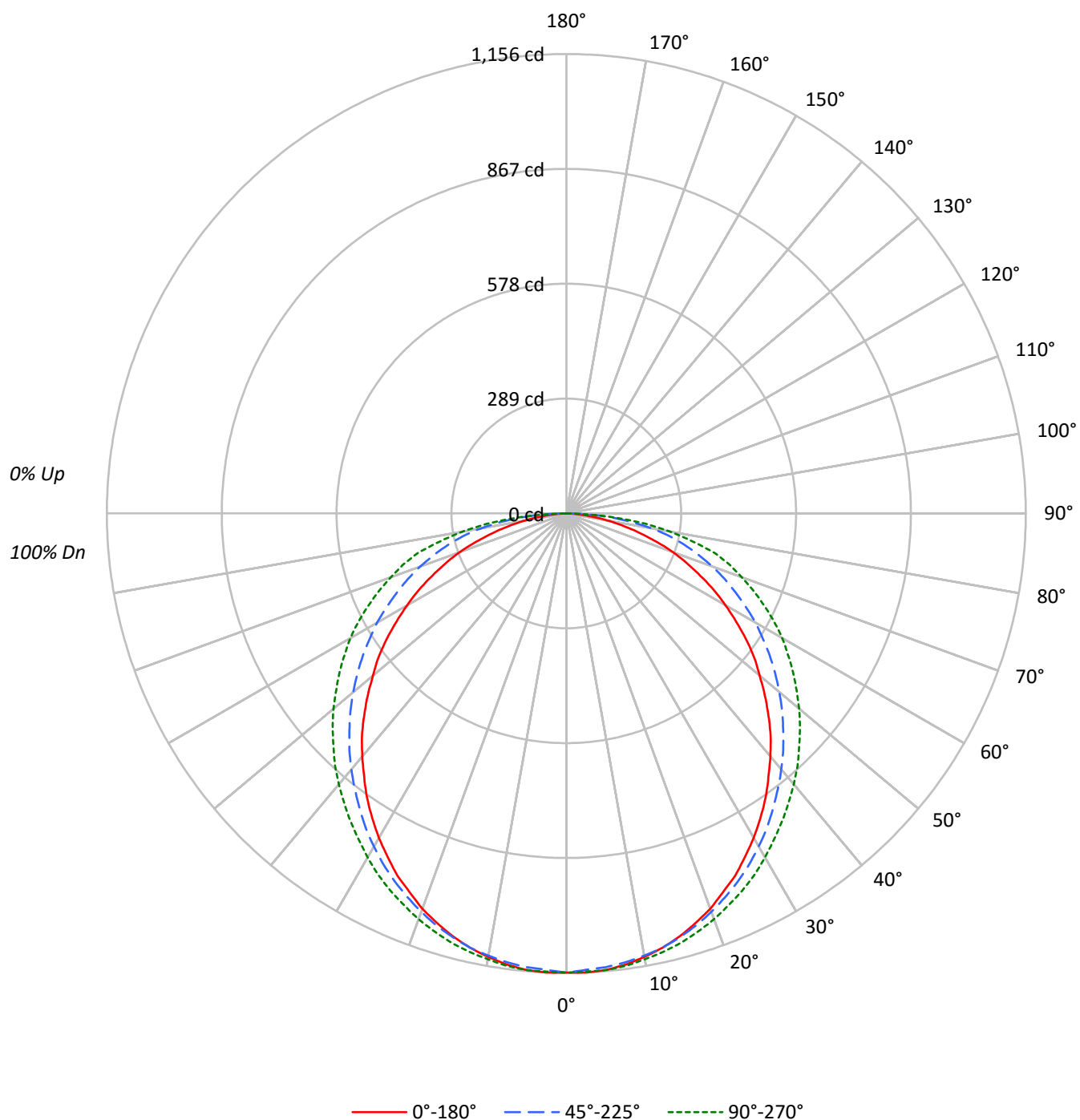
Input Watts (W): 30.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1554	1554	1554
5°	1557	1548	1557
10°	1548	1543	1556
15°	1535	1538	1557
20°	1516	1528	1556
25°	1492	1517	1555
30°	1464	1504	1553
35°	1436	1489	1554
40°	1402	1478	1564
45°	1369	1468	1577
50°	1328	1465	1601
55°	1295	1467	1633
60°	1245	1479	1689
65°	1188	1495	1750
70°	1125	1541	1847
75°	1003	1607	2018
80°	855	1702	2063
85°	610	1686	1973



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.3	3.1
10°-20°	312.6	8.9
20°-30°	472.2	13.5
30°-40°	569.1	16.2
40°-50°	597.5	17.1
50°-60°	558.9	16.0
60°-70°	461.6	13.2
70°-80°	314.5	9.0
80°-90°	107.3	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°	894.1	25.5
0°-40°	1463.2	41.8
0°-60°	2619.6	74.8
0°-90°	3503.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3503.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1155	1155	1155	1155	1155	
5°	1153	1152	1146	1153	1153	109
15°	1102	1103	1104	1116	1118	311
25°	1005	1010	1022	1041	1047	463
35°	874	883	906	937	946	546
45°	719	734	772	814	829	555
55°	552	574	625	676	696	493
65°	373	404	470	529	550	370
75°	193	237	309	367	388	206
85°	40	78	109	123	128	49
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1155.3	1155.3	1155.3	1155.3	1155.3
2.5°	1156.4	1155.3	1149.4	1155.3	1154.1
5°	1152.9	1151.8	1146.0	1152.9	1152.9
7.5°	1144.8	1144.8	1139.0	1147.1	1148.3
10°	1133.2	1133.2	1129.7	1139.0	1139.0
12.5°	1119.2	1119.2	1119.2	1128.5	1129.7
15°	1101.8	1103.0	1104.1	1115.7	1118.1
17.5°	1080.9	1083.2	1086.7	1100.6	1103.0
20°	1058.8	1061.1	1066.9	1083.2	1086.7
22.5°	1030.9	1036.7	1044.8	1063.4	1066.9
25°	1005.3	1010.0	1021.6	1041.4	1047.2
27.5°	974.0	980.9	996.0	1017.0	1025.1
30°	942.6	949.5	968.1	992.5	999.5
32.5°	908.9	919.3	939.1	964.7	972.8
35°	874.0	883.3	906.5	936.8	946.1
37.5°	835.6	848.4	874.0	906.5	918.2
40°	798.5	812.4	841.5	876.3	890.3
42.5°	761.3	775.2	807.8	847.3	861.2
45°	719.4	734.5	771.7	813.6	828.7
47.5°	677.6	696.2	736.9	781.0	797.3
50°	634.6	655.5	699.7	746.2	764.7
52.5°	596.2	616.0	662.5	712.4	729.9
55°	552.1	574.1	625.3	676.4	696.2
57.5°	506.7	531.1	585.8	641.6	661.3
60°	462.6	489.3	549.7	605.5	627.6
62.5°	419.6	446.3	509.1	567.2	589.3
65°	373.1	404.5	469.5	528.8	549.7
67.5°	328.9	362.6	431.2	489.3	510.2
70°	285.9	318.5	391.7	448.6	469.5
72.5°	239.4	276.6	349.8	409.1	431.2
75°	192.9	237.1	309.2	367.3	388.2
77.5°	149.9	195.3	267.3	315.0	325.4
80°	110.4	156.9	219.7	253.4	266.2
82.5°	70.9	117.4	167.4	191.8	202.2
85°	39.5	77.9	109.2	123.2	127.8
87.5°	16.3	33.7	44.2	50.0	50.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)