

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: P310699

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-CP187-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: P310699
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-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB 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: 3403.0 lumens
Efficiency: N/A
Efficacy: 111.6 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

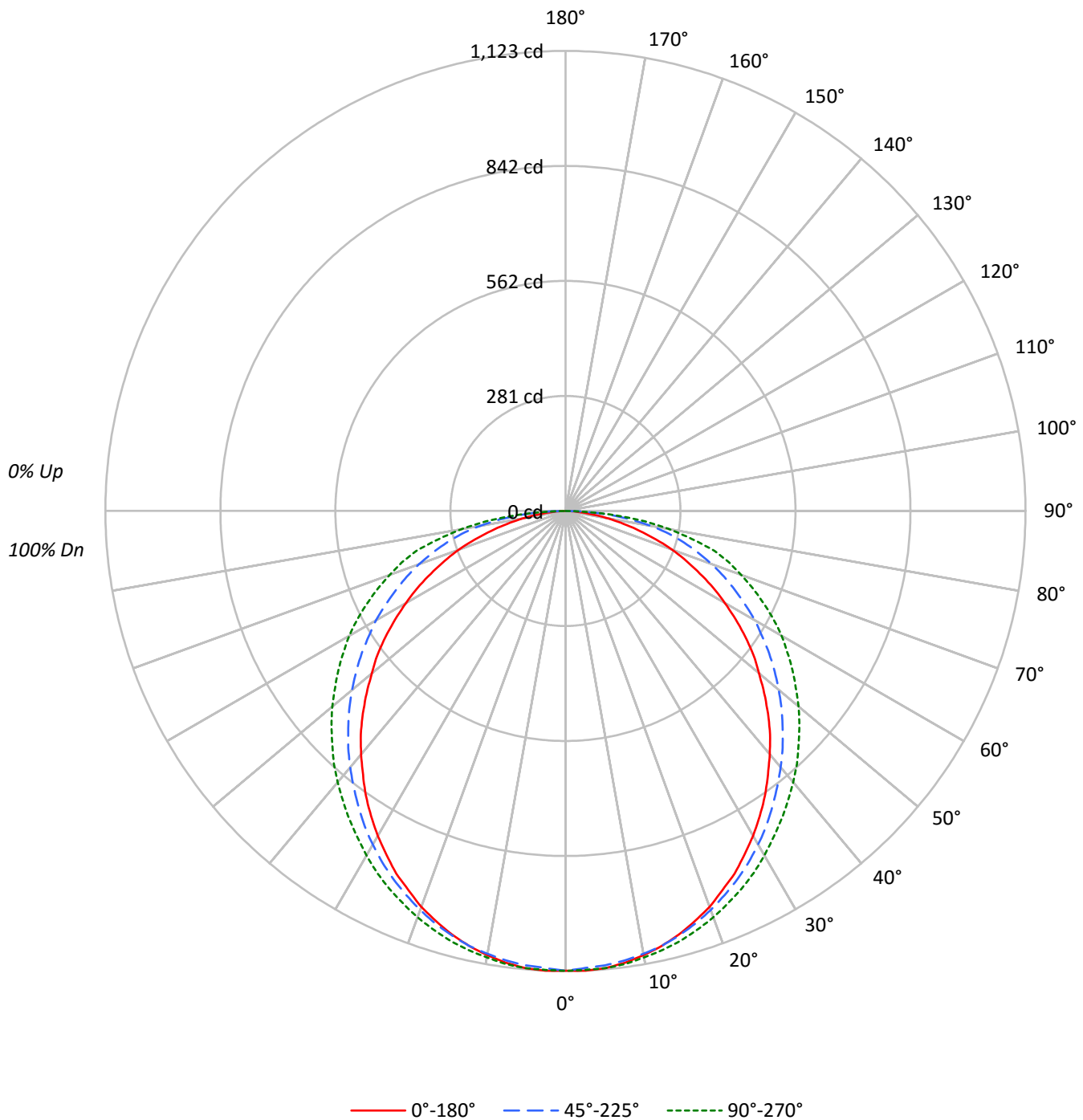
Input Watts (W): 30.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1510	1510	1510
5°	1513	1504	1513
10°	1504	1499	1512
15°	1491	1494	1513
20°	1473	1484	1512
25°	1450	1473	1510
30°	1423	1461	1509
35°	1395	1447	1510
40°	1362	1436	1519
45°	1330	1427	1532
50°	1290	1423	1555
55°	1258	1425	1586
60°	1209	1437	1641
65°	1154	1452	1700
70°	1092	1497	1794
75°	974	1561	1960
80°	831	1654	2004
85°	593	1638	1917



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	106.2	3.1
10°-20°	303.7	8.9
20°-30°	458.7	13.5
30°-40°	552.8	16.2
40°-50°	580.4	17.1
50°-60°	543.0	16.0
60°-70°	448.4	13.2
70°-80°	305.5	9.0
80°-90°	104.2	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°	868.6	25.5
0°-40°	1421.5	41.8
0°-60°	2544.8	74.8
0°-90°	3403.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3403.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1122	1122	1122	1122	1122	
5°	1120	1119	1113	1120	1120	106
15°	1070	1072	1073	1084	1086	302
25°	977	981	992	1012	1017	449
35°	849	858	881	910	919	531
45°	699	714	750	790	805	539
55°	536	558	607	657	676	479
65°	362	393	456	514	534	359
75°	187	230	300	357	377	200
85°	38	76	106	120	124	48
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1122.3	1122.3	1122.3	1122.3	1122.3
2.5°	1123.4	1122.3	1116.6	1122.3	1121.2
5°	1120.0	1118.9	1113.2	1120.0	1120.0
7.5°	1112.1	1112.1	1106.5	1114.4	1115.5
10°	1100.8	1100.8	1097.4	1106.5	1106.5
12.5°	1087.3	1087.3	1087.3	1096.3	1097.4
15°	1070.3	1071.5	1072.6	1083.9	1086.2
17.5°	1050.0	1052.3	1055.7	1069.2	1071.5
20°	1028.6	1030.8	1036.5	1052.3	1055.7
22.5°	1001.5	1007.1	1015.0	1033.1	1036.5
25°	976.6	981.1	992.4	1011.6	1017.3
27.5°	946.1	952.9	967.6	987.9	995.8
30°	915.7	922.4	940.5	964.2	971.0
32.5°	882.9	893.1	912.3	937.1	945.0
35°	849.0	858.1	880.7	910.0	919.1
37.5°	811.8	824.2	849.0	880.7	892.0
40°	775.7	789.2	817.4	851.3	864.9
42.5°	739.5	753.1	784.7	823.1	836.6
45°	698.9	713.6	749.7	790.3	805.0
47.5°	658.2	676.3	715.8	758.7	774.5
50°	616.5	636.8	679.7	724.9	742.9
52.5°	579.2	598.4	643.6	692.1	709.0
55°	536.3	557.8	607.4	657.1	676.3
57.5°	492.3	516.0	569.0	623.2	642.4
60°	449.4	475.3	534.0	588.2	609.7
62.5°	407.6	433.6	494.5	551.0	572.4
65°	362.4	392.9	456.1	513.7	534.0
67.5°	319.5	352.3	418.9	475.3	495.7
70°	277.7	309.4	380.5	435.8	456.1
72.5°	232.6	268.7	339.8	397.4	418.9
75°	187.4	230.3	300.3	356.8	377.1
77.5°	145.6	189.7	259.7	306.0	316.1
80°	107.3	152.4	213.4	246.1	258.6
82.5°	68.9	114.0	162.6	186.3	196.5
85°	38.4	75.6	106.1	119.7	124.2
87.5°	15.8	32.7	42.9	48.5	48.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)