

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: P310670

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-CA08-W2A-U-2700K**

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: P310670
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-2700K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 2700K 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: 3417.0 lumens
Efficiency: N/A
Efficacy: 112.4 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

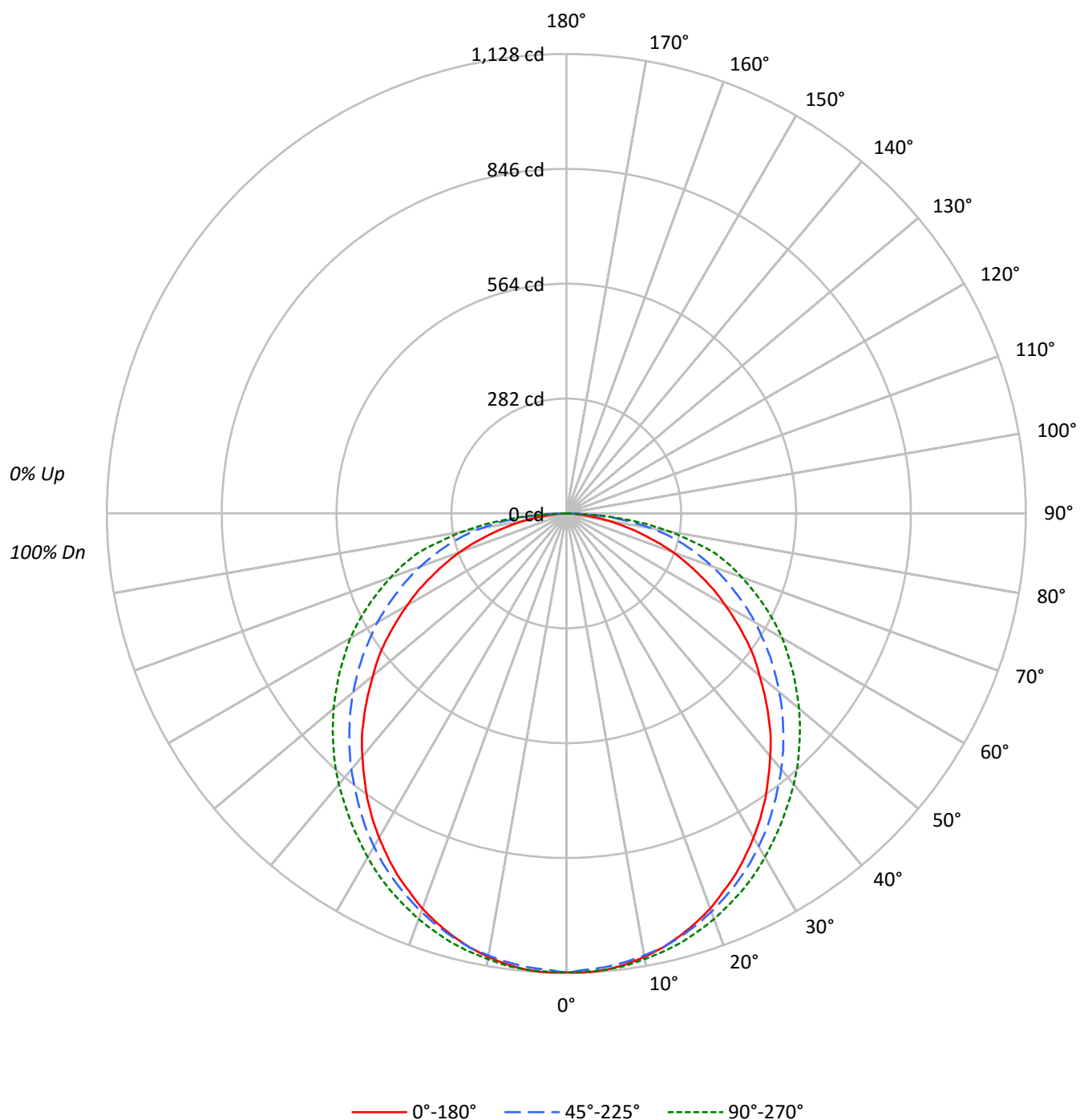
Input Watts (W): 30.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1516	1516	1516
5°	1519	1510	1519
10°	1510	1506	1518
15°	1497	1500	1519
20°	1479	1490	1518
25°	1456	1479	1517
30°	1428	1467	1515
35°	1400	1452	1516
40°	1368	1442	1525
45°	1335	1432	1538
50°	1296	1429	1562
55°	1263	1431	1593
60°	1214	1443	1647
65°	1159	1458	1707
70°	1097	1503	1802
75°	978	1568	1969
80°	834	1660	2011
85°	594	1646	1925



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	106.6	3.1
10°-20°	304.9	8.9
20°-30°	460.6	13.5
30°-40°	555.1	16.2
40°-50°	582.8	17.1
50°-60°	545.2	16.0
60°-70°	450.2	13.2
70°-80°	306.8	9.0
80°-90°	104.6	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°	872.2	25.5
0°-40°	1427.3	41.8
0°-60°	2555.3	74.8
0°-90°	3417.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3417.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1127	1127	1127	1127	1127	
5°	1125	1124	1118	1125	1125	107
15°	1075	1076	1077	1088	1091	303
25°	981	985	996	1016	1022	451
35°	852	862	884	914	923	533
45°	702	716	753	794	808	541
55°	538	560	610	660	679	481
65°	364	394	458	516	536	361
75°	188	231	302	358	379	201
85°	38	76	107	120	125	48
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1126.9	1126.9	1126.9	1126.9	1126.9
2.5°	1128.0	1126.9	1121.2	1126.9	1125.8
5°	1124.6	1123.5	1117.8	1124.6	1124.6
7.5°	1116.7	1116.7	1111.0	1119.0	1120.1
10°	1105.4	1105.4	1102.0	1111.0	1111.0
12.5°	1091.8	1091.8	1091.8	1100.8	1102.0
15°	1074.7	1075.9	1077.0	1088.4	1090.6
17.5°	1054.3	1056.6	1060.0	1073.6	1075.9
20°	1032.8	1035.1	1040.7	1056.6	1060.0
22.5°	1005.6	1011.3	1019.2	1037.3	1040.7
25°	980.6	985.2	996.5	1015.8	1021.5
27.5°	950.0	956.8	971.6	992.0	999.9
30°	919.4	926.2	944.4	968.2	975.0
32.5°	886.6	896.8	916.0	941.0	948.9
35°	852.5	861.6	884.3	913.8	922.8
37.5°	815.1	827.6	852.5	884.3	895.6
40°	778.9	792.5	820.8	854.8	868.4
42.5°	742.6	756.2	787.9	826.5	840.1
45°	701.8	716.5	752.8	793.6	808.3
47.5°	660.9	679.1	718.8	761.8	777.7
50°	619.0	639.4	682.5	727.8	746.0
52.5°	581.6	600.9	646.2	695.0	712.0
55°	538.5	560.0	609.9	659.8	679.1
57.5°	494.3	518.1	571.4	625.8	645.1
60°	451.2	477.3	536.2	590.7	612.2
62.5°	409.3	435.3	496.6	553.2	574.8
65°	363.9	394.5	458.0	515.8	536.2
67.5°	320.8	353.7	420.6	477.3	497.7
70°	278.9	310.6	382.1	437.6	458.0
72.5°	233.5	269.8	341.2	399.1	420.6
75°	188.2	231.3	301.6	358.2	378.7
77.5°	146.2	190.5	260.8	307.2	317.4
80°	107.7	153.0	214.3	247.1	259.6
82.5°	69.2	114.5	163.3	187.1	197.3
85°	38.5	76.0	106.6	120.2	124.7
87.5°	15.9	32.9	43.1	48.7	48.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)