

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: P309999

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-RDP-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: P309999
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
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-RDP-CA08-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 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: 2545.0 lumens
Efficiency: N/A
Efficacy: 82.1 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

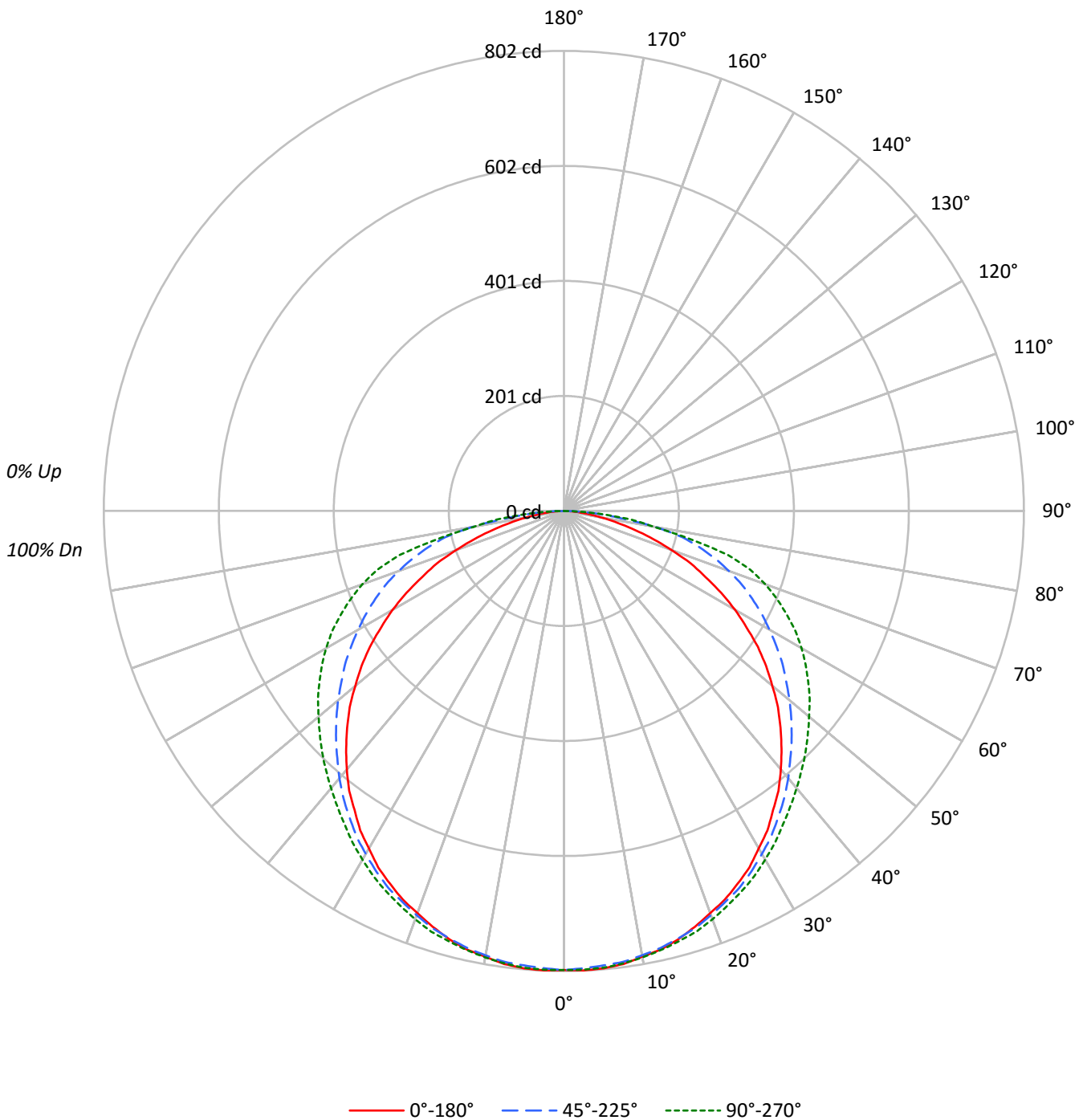
Input Watts (W): 31
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				10	0
RW	70	50	30	10	70	50	30	10	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	102	102	102	100
1	108	103	98	94	105	100	96	92	96	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1077	1077	1077
5°	1081	1074	1079
10°	1078	1074	1080
15°	1076	1074	1081
20°	1068	1074	1084
25°	1064	1076	1087
30°	1055	1073	1090
35°	1045	1070	1095
40°	1033	1069	1109
45°	1016	1069	1134
50°	993	1075	1168
55°	968	1093	1220
60°	927	1114	1287
65°	868	1153	1366
70°	790	1207	1470
75°	670	1273	1536
80°	528	1282	1242
85°	389	974	1091



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	75.9	3.0
10°-20°	218.5	8.6
20°-30°	334.1	13.1
30°-40°	408.5	16.0
40°-50°	435.3	17.1
50°-60°	416.2	16.4
60°-70°	352.6	13.9
70°-80°	237.0	9.3
80°-90°	66.8	2.6
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°	628.5	24.7
0°-40°	1037.0	40.7
0°-60°	1888.6	74.2
0°-90°	2545.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2545.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	800	800	800	800	800	
5°	800	799	795	799	799	76
15°	773	773	771	778	776	218
25°	717	720	725	731	732	330
35°	636	641	651	664	666	399
45°	534	543	562	586	596	412
55°	413	428	466	502	520	368
65°	273	300	362	410	429	271
75°	129	176	245	287	295	138
85°	25	52	63	68	71	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	800.3	800.3	800.3	800.3	800.3
2.5°	801.6	801.6	797.8	800.3	800.3
5°	800.3	799.1	795.3	799.1	799.1
7.5°	796.5	795.3	792.8	796.5	795.3
10°	789.0	789.0	786.4	790.2	790.2
12.5°	782.7	781.4	780.1	785.2	783.9
15°	772.6	772.6	771.3	777.6	776.3
17.5°	759.9	761.2	762.5	767.5	768.8
20°	746.0	748.6	749.8	757.4	757.4
22.5°	733.4	734.7	737.2	744.8	744.8
25°	717.0	719.5	724.6	730.9	732.2
27.5°	700.6	701.9	708.2	717.0	718.3
30°	679.1	682.9	690.5	700.6	701.9
32.5°	660.2	664.0	672.8	682.9	685.5
35°	636.2	641.3	651.4	664.0	666.5
37.5°	614.8	618.6	631.2	645.1	648.8
40°	588.3	595.8	608.5	624.9	631.2
42.5°	561.7	569.3	584.5	605.9	613.5
45°	534.0	542.8	561.7	585.7	595.8
47.5°	506.2	516.3	537.8	565.5	576.9
50°	474.6	487.3	513.8	545.3	558.0
52.5°	444.3	459.5	488.5	523.9	540.3
55°	412.8	427.9	465.8	502.4	520.1
57.5°	377.4	397.6	439.3	481.0	499.9
60°	344.6	363.6	414.1	459.5	478.4
62.5°	309.3	334.5	388.8	436.8	455.7
65°	272.7	300.4	362.3	410.3	429.2
67.5°	239.8	270.1	335.8	383.8	402.7
70°	200.7	238.6	306.8	354.7	373.7
72.5°	164.1	205.8	276.5	323.2	340.8
75°	128.8	175.5	244.9	286.6	295.4
77.5°	95.9	145.2	212.1	229.7	223.4
80°	68.2	116.1	165.4	156.5	160.3
82.5°	44.2	88.4	102.3	116.1	119.9
85°	25.2	51.8	63.1	68.2	70.7
87.5°	11.4	18.9	25.2	25.2	24.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)