

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: P309541

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-HRP-CP250-W2A-U-5000K**

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: P309541
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-50HE-UNV-L82765-HRP-CP250-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (336) 5000K 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: 3331.0 lumens
Efficiency: N/A
Efficacy: 84.8 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

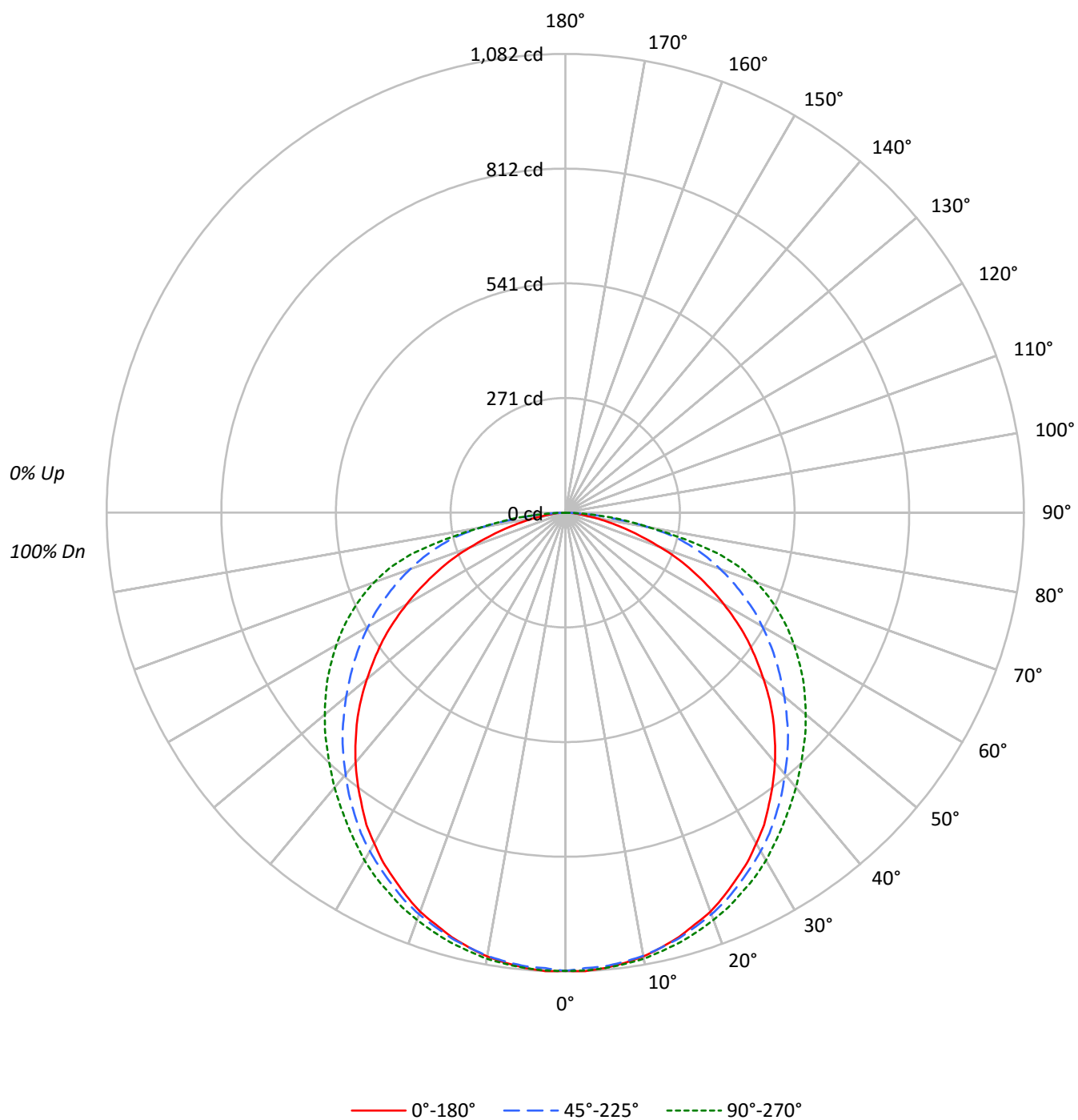
Input Watts (W): 39.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	96	93	96	93	90		92	90	87		82
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		67
3	89	78	69	62	86	76	68	62	73	66	61		70	64	59		56
4	81	68	59	52	79	67	59	52	65	57	51		62	56	50		48
5	74	61	52	45	72	60	51	45	58	50	44		56	49	44		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	63	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	36	30	57	44	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	24		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1454	1454	1454
5°	1456	1450	1456
10°	1452	1450	1459
15°	1443	1447	1461
20°	1434	1444	1464
25°	1416	1437	1466
30°	1400	1432	1471
35°	1377	1425	1473
40°	1352	1416	1487
45°	1322	1414	1510
50°	1279	1413	1550
55°	1233	1423	1606
60°	1163	1445	1677
65°	1074	1479	1771
70°	938	1531	1887
75°	761	1609	1950
80°	562	1578	1578
85°	431	1162	1314



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.4	3.1
10°-20°	294.0	8.8
20°-30°	447.6	13.4
30°-40°	543.5	16.3
40°-50°	574.2	17.2
50°-60°	541.8	16.3
60°-70°	450.5	13.5
70°-80°	296.4	8.9
80°-90°	80.8	2.4
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°	844.0	25.3
0°-40°	1387.4	41.7
0°-60°	2503.4	75.2
0°-90°	3331.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3331.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1081	1081	1081	1081	1081	
5°	1078	1078	1074	1078	1078	102
15°	1036	1038	1039	1049	1049	292
25°	954	959	968	984	987	440
35°	838	848	867	890	897	525
45°	694	708	743	780	794	535
55°	526	548	607	664	685	468
65°	338	376	464	533	556	334
75°	146	213	310	367	375	158
85°	28	61	75	84	85	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1080.7	1080.7	1080.7	1080.7	1080.7
2.5°	1082.1	1080.7	1075.2	1080.7	1080.7
5°	1078.0	1078.0	1073.8	1078.0	1078.0
7.5°	1071.0	1071.0	1068.2	1073.8	1073.8
10°	1062.6	1062.6	1061.2	1068.2	1068.2
12.5°	1050.1	1051.5	1050.1	1058.4	1058.4
15°	1036.1	1037.5	1038.9	1048.7	1048.7
17.5°	1018.0	1020.8	1023.6	1034.7	1036.1
20°	1001.3	1002.7	1008.2	1020.8	1022.2
22.5°	978.9	983.1	990.1	1002.7	1006.8
25°	953.8	959.4	967.8	984.5	987.3
27.5°	930.1	934.3	945.5	963.6	969.2
30°	900.9	907.8	921.8	939.9	946.9
32.5°	873.0	879.9	896.7	916.2	921.8
35°	838.1	847.9	867.4	889.7	896.7
37.5°	804.6	814.4	838.1	863.2	871.6
40°	769.8	780.9	806.0	835.3	846.5
42.5°	732.1	747.5	775.3	807.4	820.0
45°	694.5	708.4	743.3	779.5	793.5
47.5°	654.0	670.8	708.4	751.6	768.4
50°	610.8	631.7	674.9	722.4	740.5
52.5°	567.6	591.3	640.1	693.1	712.6
55°	525.7	548.0	606.6	663.8	684.7
57.5°	479.7	507.6	571.7	633.1	654.0
60°	432.3	463.0	536.9	601.0	623.3
62.5°	384.9	419.7	503.4	567.6	591.3
65°	337.5	376.5	464.4	532.7	556.4
67.5°	291.5	334.7	428.1	496.4	520.2
70°	238.5	292.8	389.1	456.0	479.7
72.5°	189.7	252.4	351.4	414.2	435.1
75°	146.4	213.4	309.6	366.8	375.1
77.5°	107.4	174.3	266.4	285.9	287.3
80°	72.5	139.5	203.6	200.8	203.6
82.5°	47.4	104.6	128.3	143.6	145.0
85°	27.9	61.4	75.3	83.7	85.1
87.5°	13.9	20.9	26.5	27.9	30.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)