

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: P313256

Luminaire Tested: **24FCZ2-50HE-UNV-L83050-HRP-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: P313256
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-L83050-HRP-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. 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: 3340.0 lumens
Efficiency: N/A
Efficacy: 87.0 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

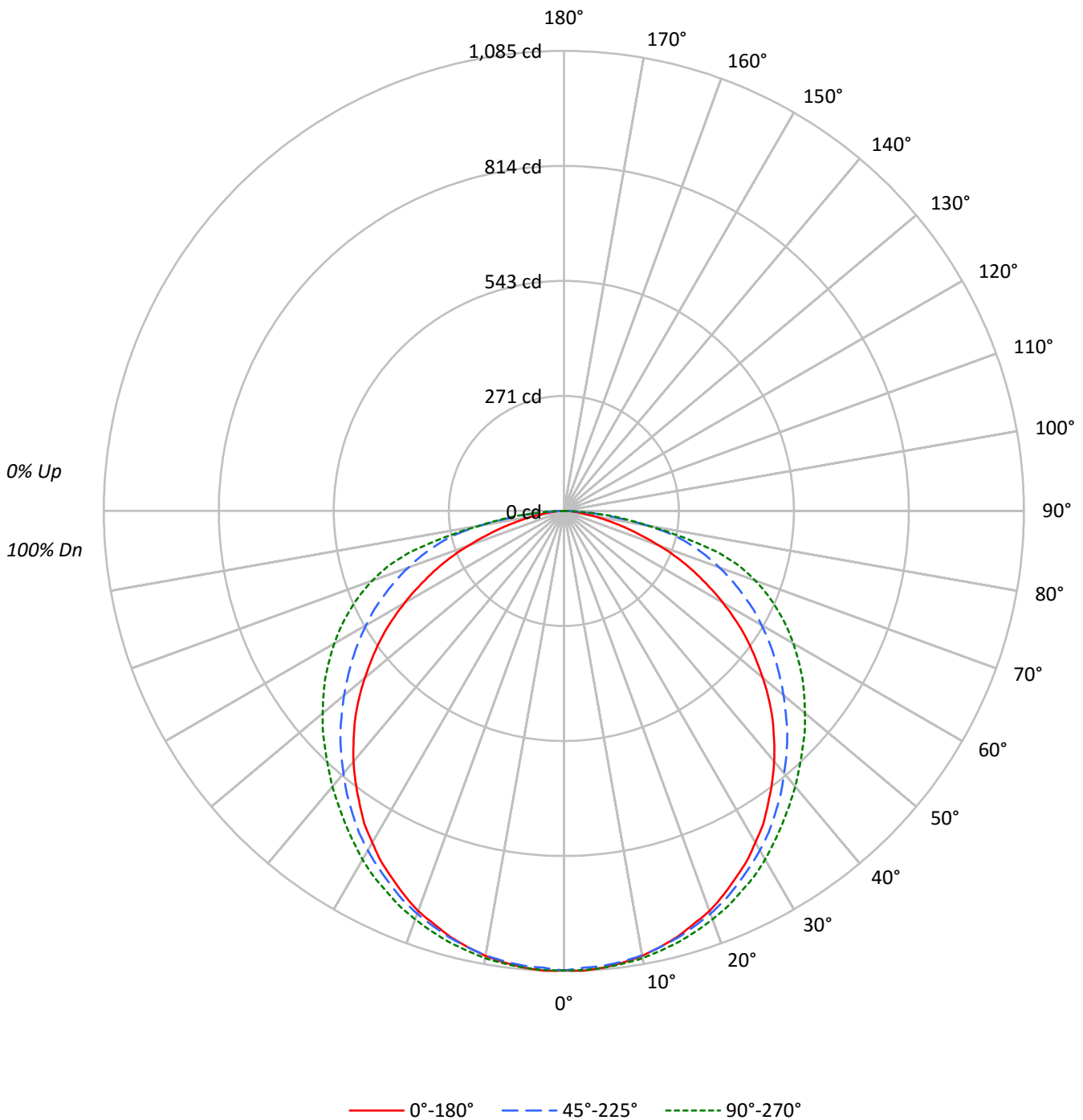
Input Watts (W): 38.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1458	1458	1458
5°	1460	1454	1460
10°	1456	1454	1463
15°	1447	1451	1465
20°	1438	1448	1467
25°	1420	1441	1470
30°	1403	1436	1475
35°	1380	1429	1477
40°	1356	1420	1491
45°	1325	1418	1514
50°	1282	1417	1554
55°	1237	1427	1611
60°	1167	1449	1682
65°	1077	1482	1776
70°	941	1535	1892
75°	763	1614	1955
80°	563	1581	1581
85°	432	1166	1317



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.7	3.1
10°-20°	294.8	8.8
20°-30°	448.8	13.4
30°-40°	544.9	16.3
40°-50°	575.7	17.2
50°-60°	543.3	16.3
60°-70°	451.7	13.5
70°-80°	297.2	8.9
80°-90°	81.0	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°	846.2	25.3
0°-40°	1391.2	41.7
0°-60°	2510.1	75.2
0°-90°	3340.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3340.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1084	1084	1084	1084	1084	
5°	1081	1081	1077	1081	1081	103
15°	1039	1040	1042	1052	1052	293
25°	956	962	970	987	990	441
35°	840	850	870	892	899	526
45°	696	710	745	782	796	536
55°	527	550	608	666	687	470
65°	338	378	466	534	558	334
75°	147	214	310	368	376	158
85°	28	62	76	84	85	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1083.7	1083.7	1083.7	1083.7	1083.7
2.5°	1085.1	1083.7	1078.1	1083.7	1083.7
5°	1080.9	1080.9	1076.7	1080.9	1080.9
7.5°	1073.9	1073.9	1071.1	1076.7	1076.7
10°	1065.5	1065.5	1064.1	1071.1	1071.1
12.5°	1052.9	1054.3	1052.9	1061.3	1061.3
15°	1038.9	1040.3	1041.7	1051.5	1051.5
17.5°	1020.7	1023.5	1026.3	1037.5	1038.9
20°	1004.0	1005.4	1011.0	1023.5	1024.9
22.5°	981.6	985.8	992.8	1005.4	1009.6
25°	956.4	962.0	970.4	987.2	990.0
27.5°	932.7	936.8	948.0	966.2	971.8
30°	903.3	910.3	924.3	942.4	949.4
32.5°	875.3	882.3	899.1	918.7	924.3
35°	840.4	850.2	869.7	892.1	899.1
37.5°	806.8	816.6	840.4	865.5	873.9
40°	771.8	783.0	808.2	837.6	848.8
42.5°	734.1	749.5	777.4	809.6	822.2
45°	696.3	710.3	745.3	781.6	795.6
47.5°	655.8	672.6	710.3	753.7	770.5
50°	612.4	633.4	676.8	724.3	742.5
52.5°	569.1	592.9	641.8	694.9	714.5
55°	527.2	549.5	608.3	665.6	686.6
57.5°	481.0	509.0	573.3	634.8	655.8
60°	433.5	464.2	538.3	602.7	625.0
62.5°	385.9	420.9	504.8	569.1	592.9
65°	338.4	377.5	465.6	534.1	557.9
67.5°	292.2	335.6	429.3	497.8	521.6
70°	239.1	293.6	390.1	457.2	481.0
72.5°	190.2	253.1	352.4	415.3	436.3
75°	146.8	213.9	310.4	367.7	376.1
77.5°	107.7	174.8	267.1	286.6	288.0
80°	72.7	139.8	204.1	201.4	204.1
82.5°	47.5	104.9	128.6	144.0	145.4
85°	28.0	61.5	75.5	83.9	85.3
87.5°	14.0	21.0	26.6	28.0	30.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)