

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: P313258

Luminaire Tested: **24FCZ2-50HE-UNV-L83050-HRP-CP187-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: P313258
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-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187" POLYCARB 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: 3541.0 lumens
Efficiency: N/A
Efficacy: 87.9 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

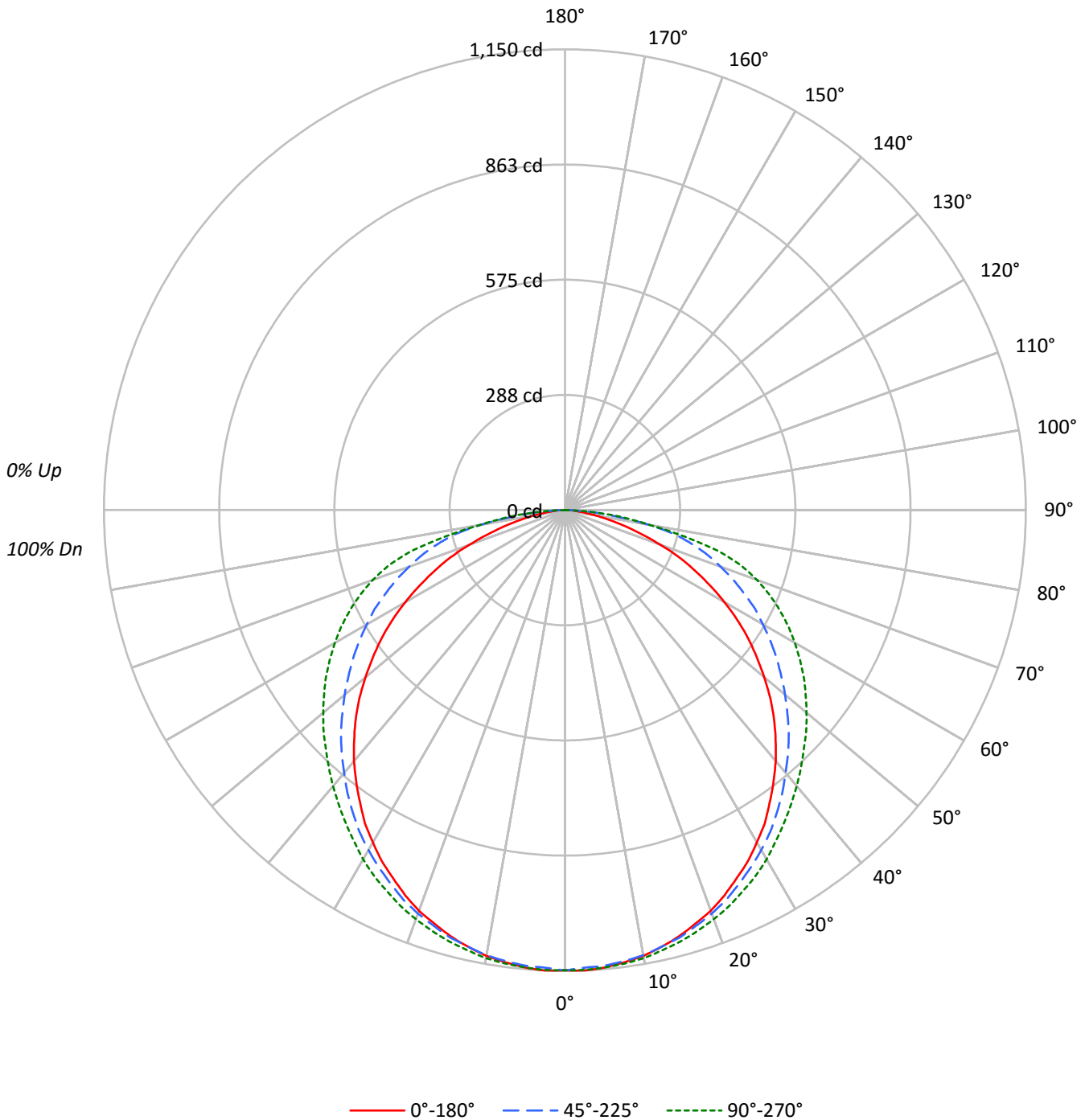
Input Watts (W): 40.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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°	1546	1546	1546
5°	1548	1542	1548
10°	1543	1541	1551
15°	1534	1538	1553
20°	1524	1535	1556
25°	1505	1527	1558
30°	1488	1522	1564
35°	1463	1515	1566
40°	1437	1505	1580
45°	1405	1503	1605
50°	1359	1502	1648
55°	1311	1513	1707
60°	1237	1536	1783
65°	1142	1571	1883
70°	997	1627	2006
75°	809	1711	2073
80°	597	1677	1677
85°	457	1237	1396



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.8	3.1
10°-20°	312.5	8.8
20°-30°	475.8	13.4
30°-40°	577.7	16.3
40°-50°	610.4	17.2
50°-60°	575.9	16.3
60°-70°	478.9	13.5
70°-80°	315.1	8.9
80°-90°	85.9	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°	897.2	25.3
0°-40°	1474.9	41.7
0°-60°	2661.2	75.2
0°-90°	3541.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3541.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1149	1149	1149	1149	1149	
5°	1146	1146	1142	1146	1146	109
15°	1101	1103	1104	1115	1115	311
25°	1014	1020	1029	1047	1050	468
35°	891	901	922	946	953	558
45°	738	753	790	829	844	569
55°	559	583	645	706	728	498
65°	359	400	494	566	592	355
75°	156	227	329	390	399	168
85°	30	65	80	89	90	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1148.9	1148.9	1148.9	1148.9	1148.9
2.5°	1150.4	1148.9	1143.0	1148.9	1148.9
5°	1145.9	1145.9	1141.5	1145.9	1145.9
7.5°	1138.5	1138.5	1135.5	1141.5	1141.5
10°	1129.6	1129.6	1128.1	1135.5	1135.5
12.5°	1116.3	1117.7	1116.3	1125.2	1125.2
15°	1101.4	1102.9	1104.4	1114.8	1114.8
17.5°	1082.2	1085.1	1088.1	1100.0	1101.4
20°	1064.4	1065.9	1071.8	1085.1	1086.6
22.5°	1040.7	1045.1	1052.5	1065.9	1070.3
25°	1014.0	1019.9	1028.8	1046.6	1049.6
27.5°	988.8	993.2	1005.1	1024.4	1030.3
30°	957.6	965.1	979.9	999.2	1006.6
32.5°	928.0	935.4	953.2	974.0	979.9
35°	890.9	901.3	922.1	945.8	953.2
37.5°	855.4	865.7	890.9	917.6	926.5
40°	818.3	830.2	856.8	888.0	899.8
42.5°	778.3	794.6	824.2	858.3	871.7
45°	738.2	753.1	790.1	828.7	843.5
47.5°	695.3	713.0	753.1	799.0	816.8
50°	649.3	671.5	717.5	767.9	787.2
52.5°	603.3	628.5	680.4	736.8	757.5
55°	558.9	582.6	644.9	705.6	727.9
57.5°	510.0	539.6	607.8	673.0	695.3
60°	459.6	492.2	570.7	638.9	662.6
62.5°	409.1	446.2	535.2	603.3	628.5
65°	358.7	400.3	493.6	566.3	591.5
67.5°	309.8	355.8	455.1	527.7	552.9
70°	253.5	311.3	413.6	484.8	510.0
72.5°	201.6	268.3	373.6	440.3	462.5
75°	155.7	226.8	329.1	389.9	398.8
77.5°	114.1	185.3	283.1	303.9	305.4
80°	77.1	148.2	216.4	213.5	216.4
82.5°	50.4	111.2	136.4	152.7	154.2
85°	29.6	65.2	80.1	88.9	90.4
87.5°	14.8	22.2	28.2	29.6	32.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)