

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: P313264

Luminaire Tested: **24FCZ2-50HE-UNV-L83050-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: P313264
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-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: 3512.0 lumens
Efficiency: N/A
Efficacy: 87.1 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

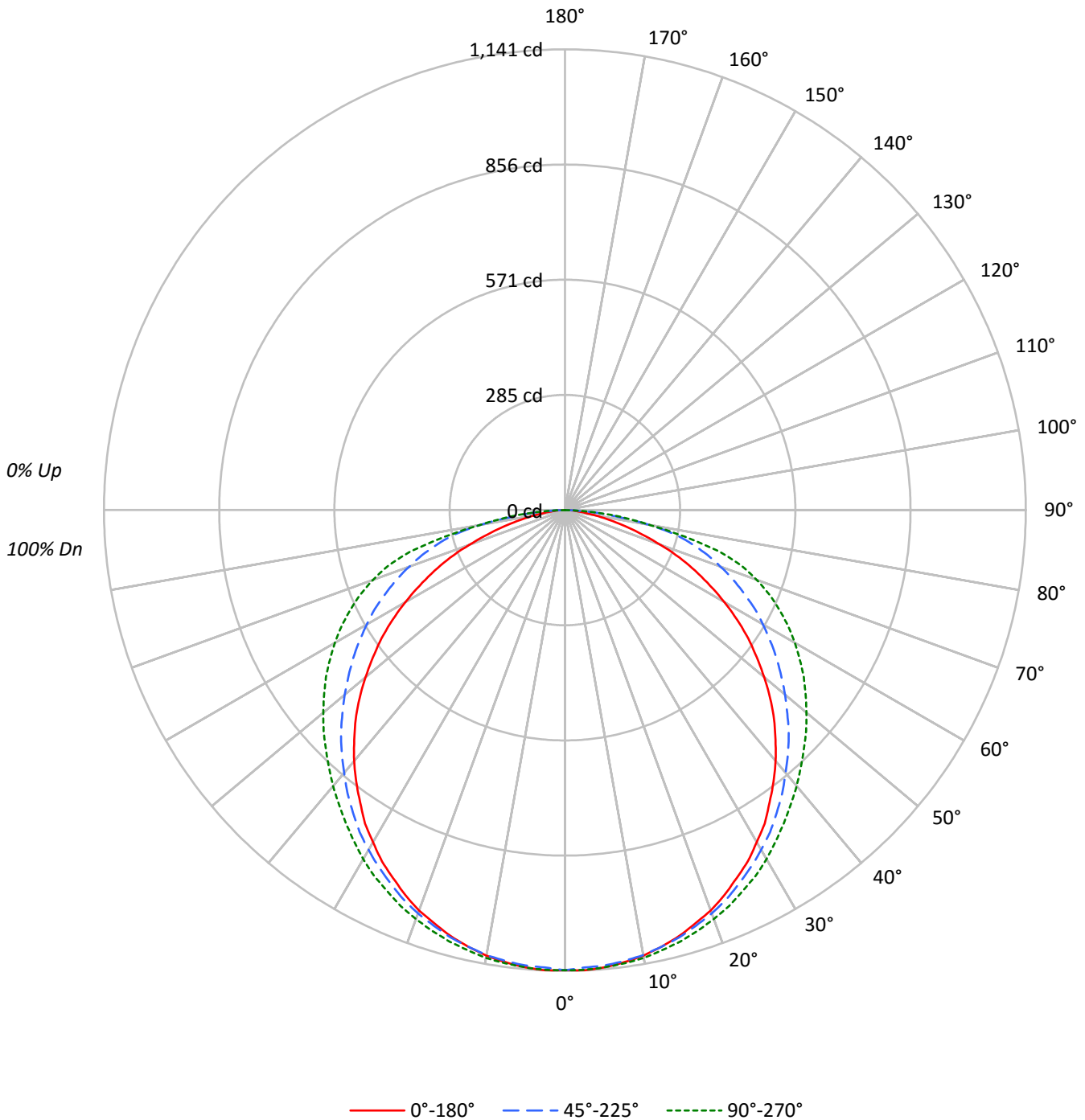
Input Watts (W): 40.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1533	1533	1533
5°	1535	1529	1535
10°	1531	1529	1539
15°	1522	1526	1540
20°	1512	1522	1543
25°	1493	1515	1545
30°	1476	1510	1551
35°	1451	1502	1553
40°	1426	1493	1568
45°	1393	1491	1592
50°	1348	1490	1634
55°	1300	1500	1693
60°	1227	1523	1769
65°	1133	1559	1868
70°	989	1614	1990
75°	803	1697	2056
80°	593	1664	1664
85°	454	1226	1385



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.9	3.1
10°-20°	310.0	8.8
20°-30°	471.9	13.4
30°-40°	573.0	16.3
40°-50°	605.4	17.2
50°-60°	571.2	16.3
60°-70°	475.0	13.5
70°-80°	312.5	8.9
80°-90°	85.2	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°	889.8	25.3
0°-40°	1462.8	41.7
0°-60°	2639.4	75.2
0°-90°	3512.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3512.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1140	1140	1140	1140	1140	
5°	1136	1136	1132	1136	1136	108
15°	1092	1094	1095	1106	1106	308
25°	1006	1012	1020	1038	1041	464
35°	884	894	914	938	945	553
45°	732	747	784	822	837	564
55°	554	578	640	700	722	494
65°	356	397	490	562	587	352
75°	154	225	326	387	396	166
85°	29	65	79	88	90	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1139.5	1139.5	1139.5	1139.5	1139.5
2.5°	1140.9	1139.5	1133.6	1139.5	1139.5
5°	1136.5	1136.5	1132.1	1136.5	1136.5
7.5°	1129.2	1129.2	1126.2	1132.1	1132.1
10°	1120.4	1120.4	1118.9	1126.2	1126.2
12.5°	1107.1	1108.6	1107.1	1115.9	1115.9
15°	1092.4	1093.9	1095.4	1105.7	1105.7
17.5°	1073.3	1076.2	1079.2	1091.0	1092.4
20°	1055.7	1057.1	1063.0	1076.2	1077.7
22.5°	1032.1	1036.6	1043.9	1057.1	1061.5
25°	1005.7	1011.6	1020.4	1038.0	1041.0
27.5°	980.7	985.1	996.9	1016.0	1021.8
30°	949.8	957.2	971.9	991.0	998.3
32.5°	920.4	927.8	945.4	966.0	971.9
35°	883.6	893.9	914.5	938.0	945.4
37.5°	848.4	858.6	883.6	910.1	918.9
40°	811.6	823.4	849.8	880.7	892.5
42.5°	771.9	788.1	817.5	851.3	864.5
45°	732.2	746.9	783.7	821.9	836.6
47.5°	689.6	707.2	746.9	792.5	810.1
50°	644.0	666.0	711.6	761.6	780.7
52.5°	598.4	623.4	674.9	730.7	751.3
55°	554.3	577.8	639.6	699.9	721.9
57.5°	505.8	535.2	602.8	667.5	689.6
60°	455.8	488.1	566.1	633.7	657.2
62.5°	405.8	442.6	530.8	598.4	623.4
65°	355.8	397.0	489.6	561.6	586.6
67.5°	307.3	352.9	451.4	523.4	548.4
70°	251.4	308.8	410.2	480.8	505.8
72.5°	200.0	266.1	370.5	436.7	458.7
75°	154.4	225.0	326.4	386.7	395.5
77.5°	113.2	183.8	280.8	301.4	302.9
80°	76.5	147.0	214.7	211.7	214.7
82.5°	50.0	110.3	135.3	151.4	152.9
85°	29.4	64.7	79.4	88.2	89.7
87.5°	14.7	22.1	27.9	29.4	32.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)