

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: P313262

Luminaire Tested: **24FCZ2-50HE-UNV-L83050-HRP-CP250-W2A-U-4000K**

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: P313262
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-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (336) 4000K 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: 3478.0 lumens
Efficiency: N/A
Efficacy: 88.5 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

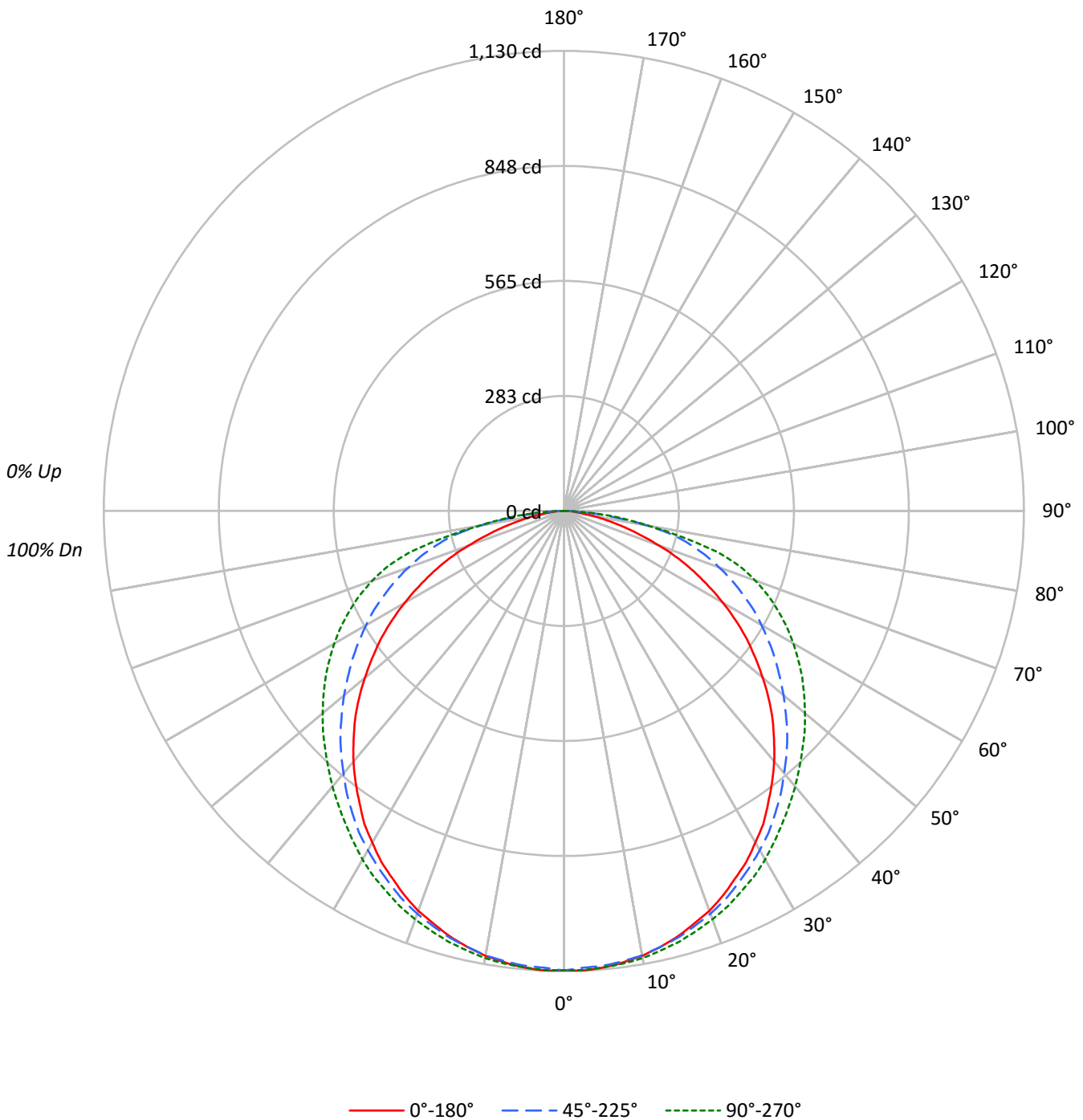
Input Watts (W): 39.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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°	1518	1518	1518
5°	1520	1514	1520
10°	1516	1514	1524
15°	1507	1511	1525
20°	1497	1507	1528
25°	1478	1500	1530
30°	1461	1495	1536
35°	1437	1488	1538
40°	1412	1478	1552
45°	1380	1477	1576
50°	1335	1475	1618
55°	1288	1486	1677
60°	1215	1509	1752
65°	1122	1544	1850
70°	980	1598	1971
75°	795	1680	2036
80°	587	1647	1647
85°	449	1213	1371



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	106.9	3.1
10°-20°	307.0	8.8
20°-30°	467.3	13.4
30°-40°	567.4	16.3
40°-50°	599.5	17.2
50°-60°	565.7	16.3
60°-70°	470.4	13.5
70°-80°	309.4	8.9
80°-90°	84.4	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°	881.2	25.3
0°-40°	1448.6	41.7
0°-60°	2613.9	75.2
0°-90°	3478.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3478.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1128	1128	1128	1128	1128	
5°	1126	1126	1121	1126	1126	107
15°	1082	1083	1085	1095	1095	305
25°	996	1002	1010	1028	1031	459
35°	875	885	906	929	936	548
45°	725	740	776	814	828	558
55°	549	572	633	693	715	489
65°	352	393	485	556	581	348
75°	153	223	323	383	392	165
85°	29	64	79	87	89	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1128.4	1128.4	1128.4	1128.4	1128.4
2.5°	1129.9	1128.4	1122.6	1128.4	1128.4
5°	1125.5	1125.5	1121.2	1125.5	1125.5
7.5°	1118.2	1118.2	1115.3	1121.2	1121.2
10°	1109.5	1109.5	1108.1	1115.3	1115.3
12.5°	1096.4	1097.9	1096.4	1105.1	1105.1
15°	1081.8	1083.3	1084.8	1095.0	1095.0
17.5°	1062.9	1065.8	1068.7	1080.4	1081.8
20°	1045.4	1046.9	1052.7	1065.8	1067.3
22.5°	1022.1	1026.5	1033.8	1046.9	1051.3
25°	995.9	1001.8	1010.5	1028.0	1030.9
27.5°	971.2	975.6	987.2	1006.1	1012.0
30°	940.6	947.9	962.4	981.4	988.7
32.5°	911.5	918.8	936.2	956.6	962.4
35°	875.1	885.3	905.7	929.0	936.2
37.5°	840.1	850.3	875.1	901.3	910.0
40°	803.7	815.4	841.6	872.2	883.8
42.5°	764.4	780.4	809.6	843.1	856.2
45°	725.1	739.7	776.1	813.9	828.5
47.5°	682.9	700.4	739.7	784.8	802.3
50°	637.8	659.6	704.7	754.2	773.2
52.5°	592.6	617.4	668.3	723.7	744.0
55°	548.9	572.2	633.4	693.1	714.9
57.5°	500.9	530.0	597.0	661.0	682.9
60°	451.4	483.4	560.6	627.6	650.9
62.5°	401.9	438.3	525.6	592.6	617.4
65°	352.4	393.1	484.9	556.2	581.0
67.5°	304.3	349.5	447.0	518.4	543.1
70°	249.0	305.8	406.2	476.1	500.9
72.5°	198.0	263.5	366.9	432.4	454.3
75°	152.9	222.8	323.2	382.9	391.7
77.5°	112.1	182.0	278.1	298.5	299.9
80°	75.7	145.6	212.6	209.7	212.6
82.5°	49.5	109.2	134.0	150.0	151.4
85°	29.1	64.1	78.6	87.4	88.8
87.5°	14.6	21.8	27.7	29.1	32.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)