

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: P313912

Luminaire Tested: **24FCZ2-40HE-UNV-L83050-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: P313912
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-40HE-UNV-L83050-CP250-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED 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: 3629.0 lumens
Efficiency: N/A
Efficacy: 116.7 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

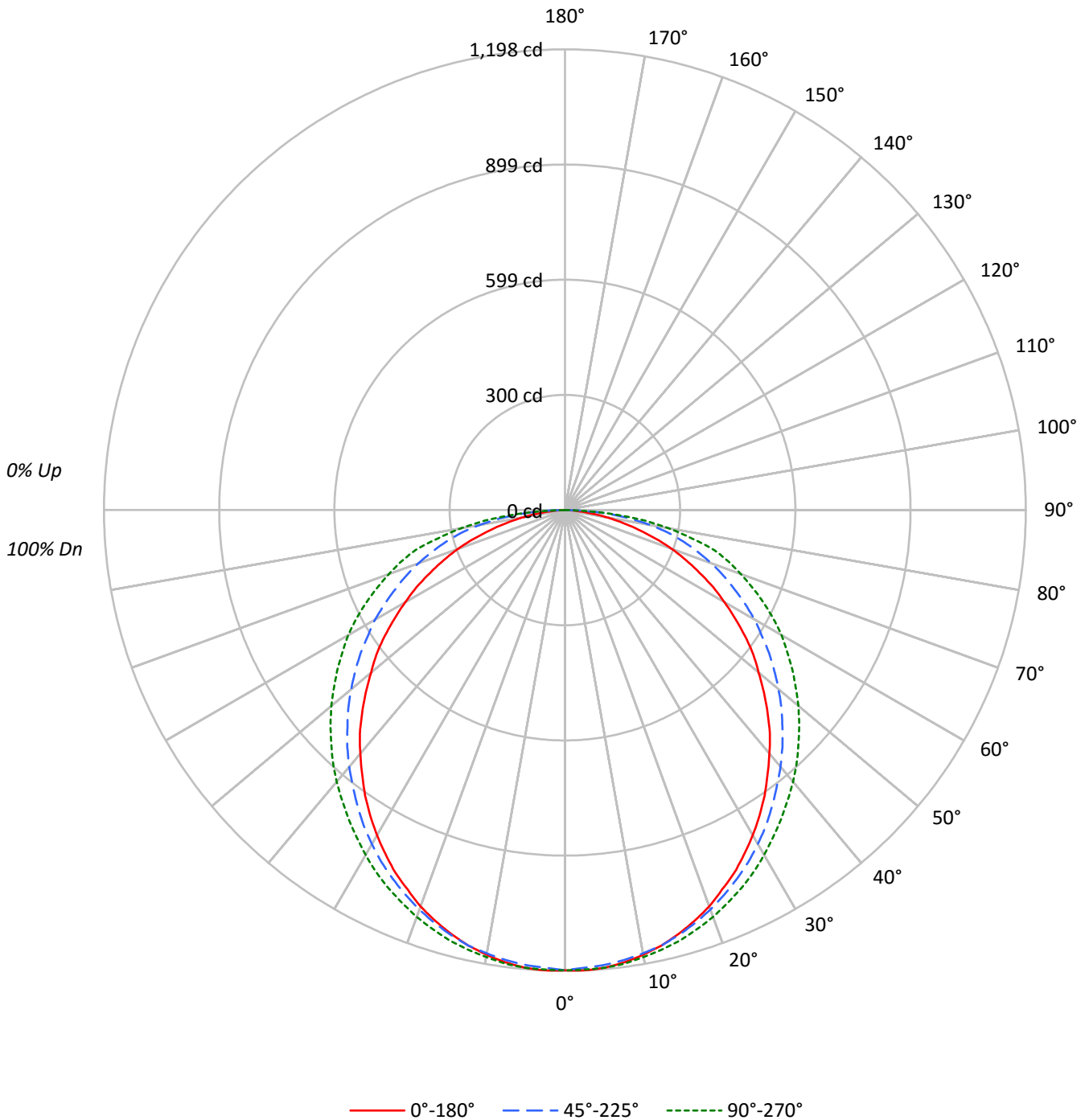
Input Watts (W): 31.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	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	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1610	1610	1610
5°	1613	1603	1613
10°	1604	1599	1612
15°	1590	1593	1613
20°	1571	1583	1612
25°	1546	1571	1610
30°	1517	1558	1609
35°	1487	1543	1610
40°	1453	1531	1620
45°	1418	1521	1634
50°	1376	1517	1658
55°	1342	1520	1692
60°	1290	1533	1750
65°	1230	1549	1813
70°	1165	1596	1913
75°	1039	1665	2090
80°	886	1764	2136
85°	631	1748	2044



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.3	3.1
10°-20°	323.9	8.9
20°-30°	489.2	13.5
30°-40°	589.6	16.2
40°-50°	618.9	17.1
50°-60°	579.0	16.0
60°-70°	478.2	13.2
70°-80°	325.8	9.0
80°-90°	111.1	3.1
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°	926.3	25.5
0°-40°	1515.9	41.8
0°-60°	2713.8	74.8
0°-90°	3629.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3629.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1197	1197	1197	1197	1197	
5°	1194	1193	1187	1194	1194	113
15°	1141	1143	1144	1156	1158	322
25°	1042	1046	1058	1079	1085	479
35°	905	915	939	970	980	566
45°	745	761	800	843	858	575
55°	572	595	648	701	721	510
65°	386	419	486	548	570	383
75°	200	246	320	380	402	213
85°	41	81	113	128	132	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1196.8	1196.8	1196.8	1196.8	1196.8
2.5°	1198.0	1196.8	1190.8	1196.8	1195.6
5°	1194.4	1193.2	1187.2	1194.4	1194.4
7.5°	1186.0	1186.0	1180.0	1188.4	1189.6
10°	1173.9	1173.9	1170.3	1180.0	1180.0
12.5°	1159.5	1159.5	1159.5	1169.1	1170.3
15°	1141.4	1142.6	1143.8	1155.9	1158.3
17.5°	1119.8	1122.2	1125.8	1140.2	1142.6
20°	1096.9	1099.3	1105.3	1122.2	1125.8
22.5°	1068.0	1074.0	1082.4	1101.7	1105.3
25°	1041.5	1046.3	1058.3	1078.8	1084.8
27.5°	1009.0	1016.2	1031.9	1053.5	1062.0
30°	976.5	983.7	1003.0	1028.2	1035.5
32.5°	941.6	952.4	972.9	999.4	1007.8
35°	905.4	915.1	939.1	970.5	980.1
37.5°	865.7	878.9	905.4	939.1	951.2
40°	827.2	841.6	871.7	907.8	922.3
42.5°	788.6	803.1	836.8	877.7	892.2
45°	745.3	761.0	799.5	842.8	858.5
47.5°	702.0	721.2	763.4	809.1	826.0
50°	657.4	679.1	724.8	773.0	792.3
52.5°	617.7	638.1	686.3	738.1	756.1
55°	571.9	594.8	647.8	700.7	721.2
57.5°	525.0	550.2	606.8	664.6	685.1
60°	479.2	506.9	569.5	627.3	650.2
62.5°	434.7	462.4	527.4	587.6	610.4
65°	386.5	419.0	486.4	547.8	569.5
67.5°	340.7	375.7	446.7	506.9	528.6
70°	296.2	329.9	405.8	464.8	486.4
72.5°	248.0	286.6	362.4	423.8	446.7
75°	199.9	245.6	320.3	380.5	402.1
77.5°	155.3	202.3	276.9	326.3	337.1
80°	114.4	162.5	227.6	262.5	275.7
82.5°	73.4	121.6	173.4	198.7	209.5
85°	40.9	80.7	113.2	127.6	132.4
87.5°	16.9	34.9	45.8	51.8	51.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)