

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: P313986

Luminaire Tested: **24FCZ2-45-UNV-L83050-CP250-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: P313986
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: 24FCZ2-45-UNV-L83050-CP250-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (168) 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: 3845.0 lumens
Efficiency: N/A
Efficacy: 102.3 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

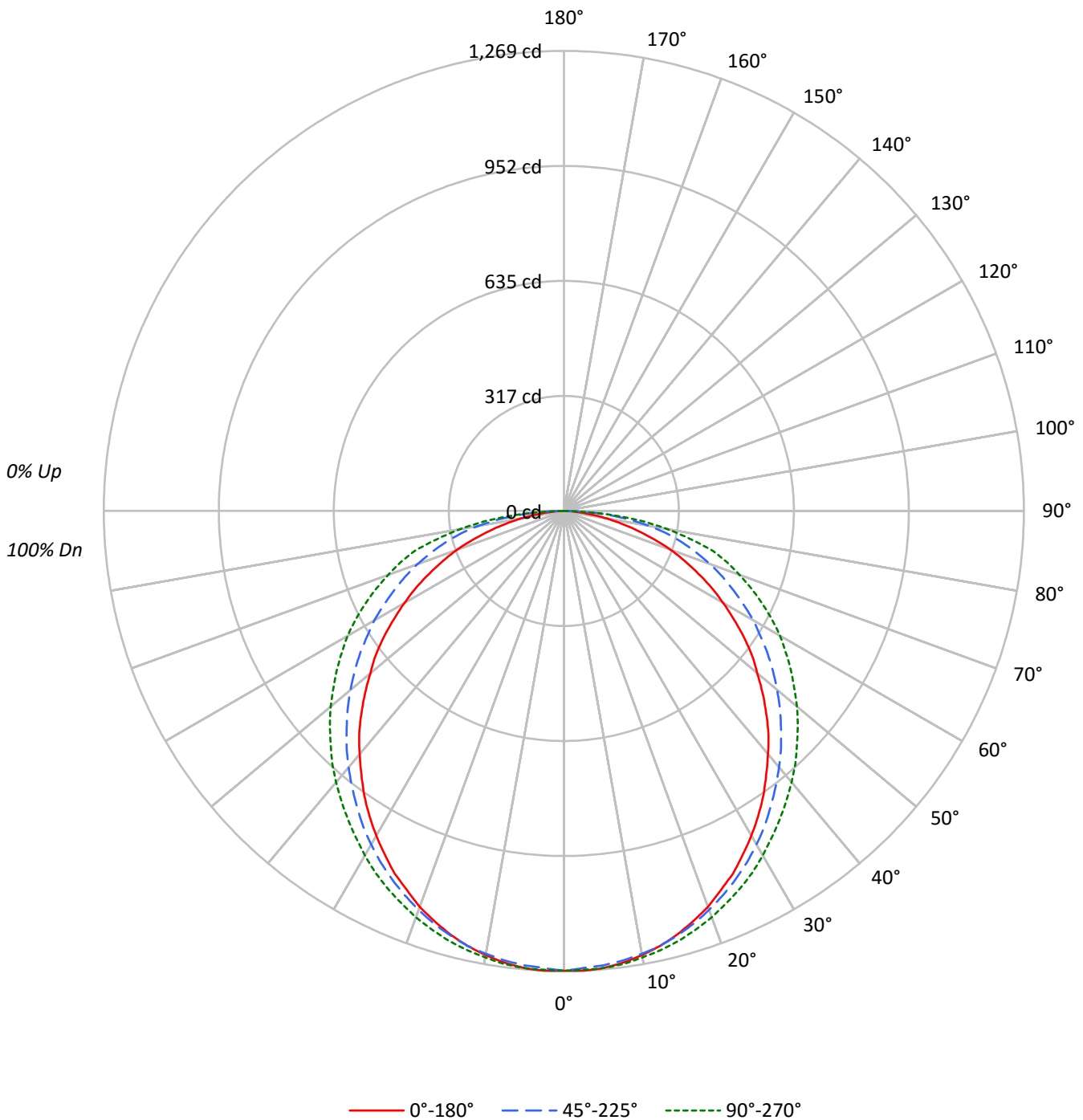
Input Watts (W): 37.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1706	1706	1706
5°	1709	1699	1709
10°	1699	1694	1708
15°	1685	1688	1709
20°	1664	1677	1708
25°	1638	1665	1706
30°	1607	1651	1704
35°	1576	1634	1706
40°	1539	1622	1716
45°	1503	1612	1731
50°	1458	1608	1757
55°	1422	1610	1792
60°	1366	1624	1854
65°	1304	1641	1921
70°	1234	1691	2028
75°	1101	1764	2215
80°	939	1868	2263
85°	670	1851	2166



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.0	3.1
10°-20°	343.1	8.9
20°-30°	518.3	13.5
30°-40°	624.6	16.2
40°-50°	655.8	17.1
50°-60°	613.5	16.0
60°-70°	506.6	13.2
70°-80°	345.2	9.0
80°-90°	117.7	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°	981.4	25.5
0°-40°	1606.1	41.8
0°-60°	2875.4	74.8
0°-90°	3845.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3845.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1268	1268	1268	1268	1268	
5°	1266	1264	1258	1266	1266	120
15°	1209	1211	1212	1225	1227	341
25°	1104	1109	1121	1143	1149	508
35°	959	970	995	1028	1038	599
45°	790	806	847	893	910	609
55°	606	630	686	742	764	541
65°	410	444	515	580	603	406
75°	212	260	339	403	426	226
85°	43	86	120	135	140	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1268.0	1268.0	1268.0	1268.0	1268.0
2.5°	1269.3	1268.0	1261.7	1268.0	1266.8
5°	1265.5	1264.2	1257.8	1265.5	1265.5
7.5°	1256.6	1256.6	1250.2	1259.1	1260.4
10°	1243.8	1243.8	1240.0	1250.2	1250.2
12.5°	1228.5	1228.5	1228.5	1238.7	1240.0
15°	1209.4	1210.6	1211.9	1224.7	1227.2
17.5°	1186.4	1189.0	1192.8	1208.1	1210.6
20°	1162.2	1164.7	1171.1	1189.0	1192.8
22.5°	1131.5	1137.9	1146.9	1167.3	1171.1
25°	1103.5	1108.6	1121.3	1143.0	1149.4
27.5°	1069.0	1076.7	1093.3	1116.2	1125.2
30°	1034.6	1042.2	1062.7	1089.4	1097.1
32.5°	997.6	1009.1	1030.8	1058.8	1067.8
35°	959.3	969.5	995.0	1028.2	1038.4
37.5°	917.2	931.3	959.3	995.0	1007.8
40°	876.4	891.7	923.6	961.9	977.2
42.5°	835.6	850.9	886.6	930.0	945.3
45°	789.7	806.2	847.1	893.0	909.6
47.5°	743.7	764.1	808.8	857.3	875.1
50°	696.5	719.5	768.0	819.0	839.4
52.5°	654.4	676.1	727.2	782.0	801.1
55°	606.0	630.2	686.3	742.5	764.1
57.5°	556.2	583.0	643.0	704.2	725.9
60°	507.7	537.1	603.4	664.6	688.9
62.5°	460.5	489.9	558.8	622.5	646.8
65°	409.5	443.9	515.4	580.4	603.4
67.5°	361.0	398.0	473.3	537.1	560.0
70°	313.8	349.5	429.9	492.4	515.4
72.5°	262.8	303.6	384.0	449.0	473.3
75°	211.8	260.2	339.3	403.1	426.1
77.5°	164.6	214.3	293.4	345.7	357.2
80°	121.2	172.2	241.1	278.1	292.1
82.5°	77.8	128.8	183.7	210.5	222.0
85°	43.4	85.5	119.9	135.2	140.3
87.5°	17.9	37.0	48.5	54.9	54.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)