

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: P313938

Luminaire Tested: **24FCZ2-40-UNV-L83050-CP250-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: P313938
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: 24FCZ2-40-UNV-L83050-CP250-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (168) 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: 3641.0 lumens
Efficiency: N/A
Efficacy: 106.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

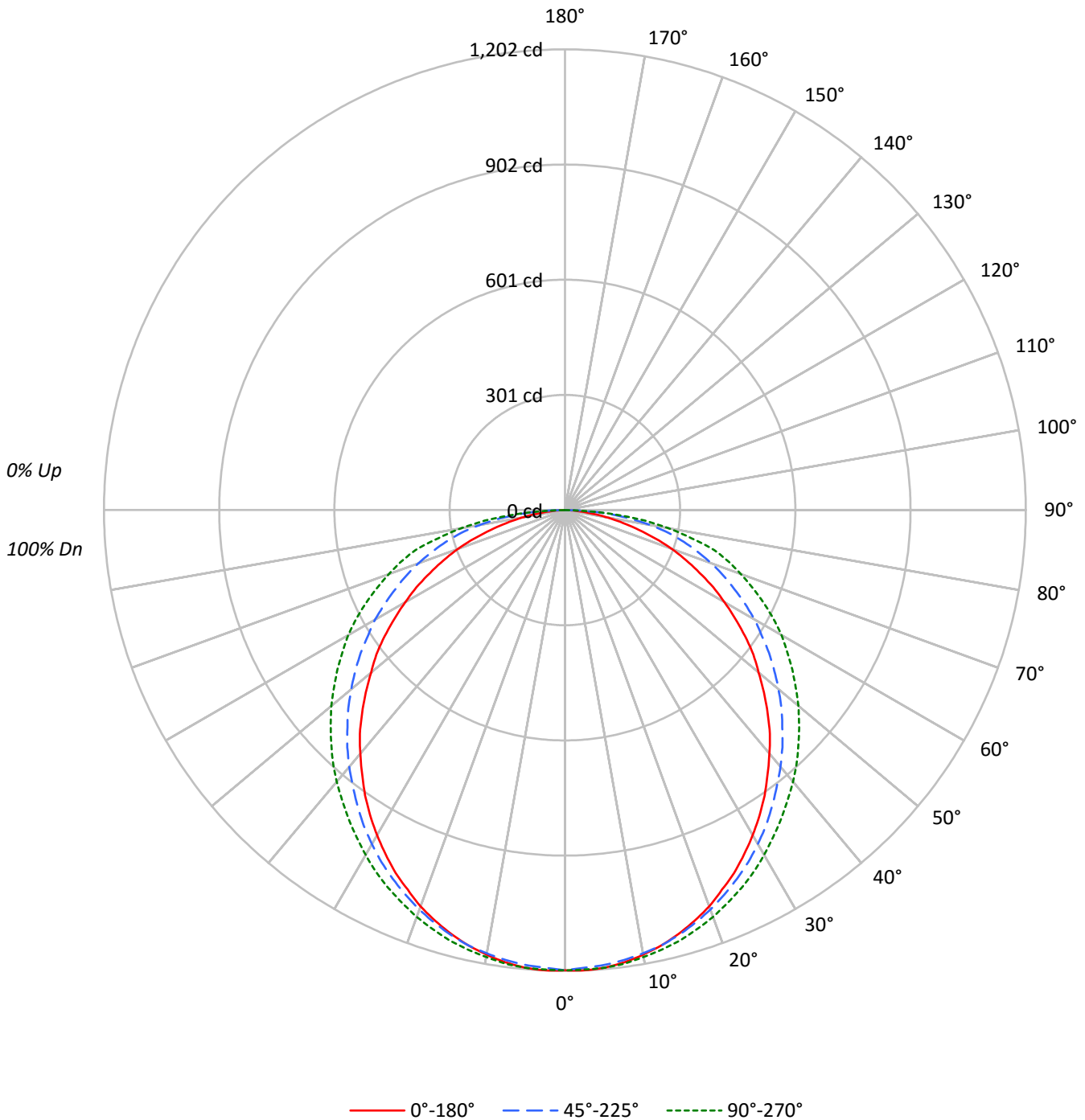
Input Watts (W): 34.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1616	1616	1616
5°	1619	1609	1619
10°	1609	1604	1617
15°	1595	1599	1619
20°	1576	1588	1617
25°	1551	1576	1616
30°	1522	1563	1614
35°	1492	1548	1615
40°	1458	1536	1625
45°	1423	1526	1639
50°	1381	1522	1664
55°	1346	1525	1697
60°	1294	1538	1755
65°	1235	1554	1819
70°	1169	1602	1920
75°	1042	1670	2098
80°	890	1769	2143
85°	634	1754	2052



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.6	3.1
10°-20°	324.9	8.9
20°-30°	490.8	13.5
30°-40°	591.5	16.2
40°-50°	621.0	17.1
50°-60°	581.0	16.0
60°-70°	479.8	13.2
70°-80°	326.9	9.0
80°-90°	111.5	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°	929.4	25.5
0°-40°	1520.9	41.8
0°-60°	2722.8	74.8
0°-90°	3641.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3641.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1201	1201	1201	1201	1201	
5°	1198	1197	1191	1198	1198	114
15°	1145	1146	1148	1160	1162	323
25°	1045	1050	1062	1082	1088	481
35°	908	918	942	974	983	568
45°	748	764	802	846	861	577
55°	574	597	650	703	724	512
65°	388	420	488	550	571	385
75°	200	246	321	382	404	214
85°	41	81	114	128	133	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1200.8	1200.8	1200.8	1200.8	1200.8
2.5°	1202.0	1200.8	1194.7	1200.8	1199.6
5°	1198.4	1197.1	1191.1	1198.4	1198.4
7.5°	1189.9	1189.9	1183.9	1192.3	1193.5
10°	1177.8	1177.8	1174.2	1183.9	1183.9
12.5°	1163.3	1163.3	1163.3	1173.0	1174.2
15°	1145.2	1146.4	1147.6	1159.7	1162.1
17.5°	1123.5	1125.9	1129.5	1144.0	1146.4
20°	1100.5	1102.9	1109.0	1125.9	1129.5
22.5°	1071.5	1077.6	1086.0	1105.3	1109.0
25°	1044.9	1049.8	1061.8	1082.4	1088.4
27.5°	1012.3	1019.6	1035.3	1057.0	1065.5
30°	979.7	987.0	1006.3	1031.6	1038.9
32.5°	944.7	955.5	976.1	1002.7	1011.1
35°	908.4	918.1	942.3	973.7	983.3
37.5°	868.6	881.9	908.4	942.3	954.3
40°	829.9	844.4	874.6	910.8	925.3
42.5°	791.3	805.7	839.6	880.6	895.1
45°	747.8	763.5	802.1	845.6	861.3
47.5°	704.3	723.6	765.9	811.8	828.7
50°	659.6	681.3	727.2	775.5	794.9
52.5°	619.7	640.2	688.6	740.5	758.6
55°	573.8	596.8	649.9	703.1	723.6
57.5°	526.7	552.1	608.8	666.8	687.4
60°	480.8	508.6	571.4	629.4	652.3
62.5°	436.1	463.9	529.1	589.5	612.5
65°	387.8	420.4	488.0	549.6	571.4
67.5°	341.9	376.9	448.2	508.6	530.3
70°	297.2	331.0	407.1	466.3	488.0
72.5°	248.9	287.5	363.6	425.2	448.2
75°	200.5	246.4	321.3	381.7	403.5
77.5°	155.8	202.9	277.8	327.4	338.2
80°	114.8	163.1	228.3	263.3	276.6
82.5°	73.7	122.0	174.0	199.3	210.2
85°	41.1	80.9	113.6	128.0	132.9
87.5°	16.9	35.0	45.9	51.9	51.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)