

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: P311519

Luminaire Tested: **24FCZ2-45-UNV-L82765-S-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: P311519
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
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-L82765-S-CP250-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (168) 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: 4033.0 lumens
Efficiency: N/A
Efficacy: 106.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

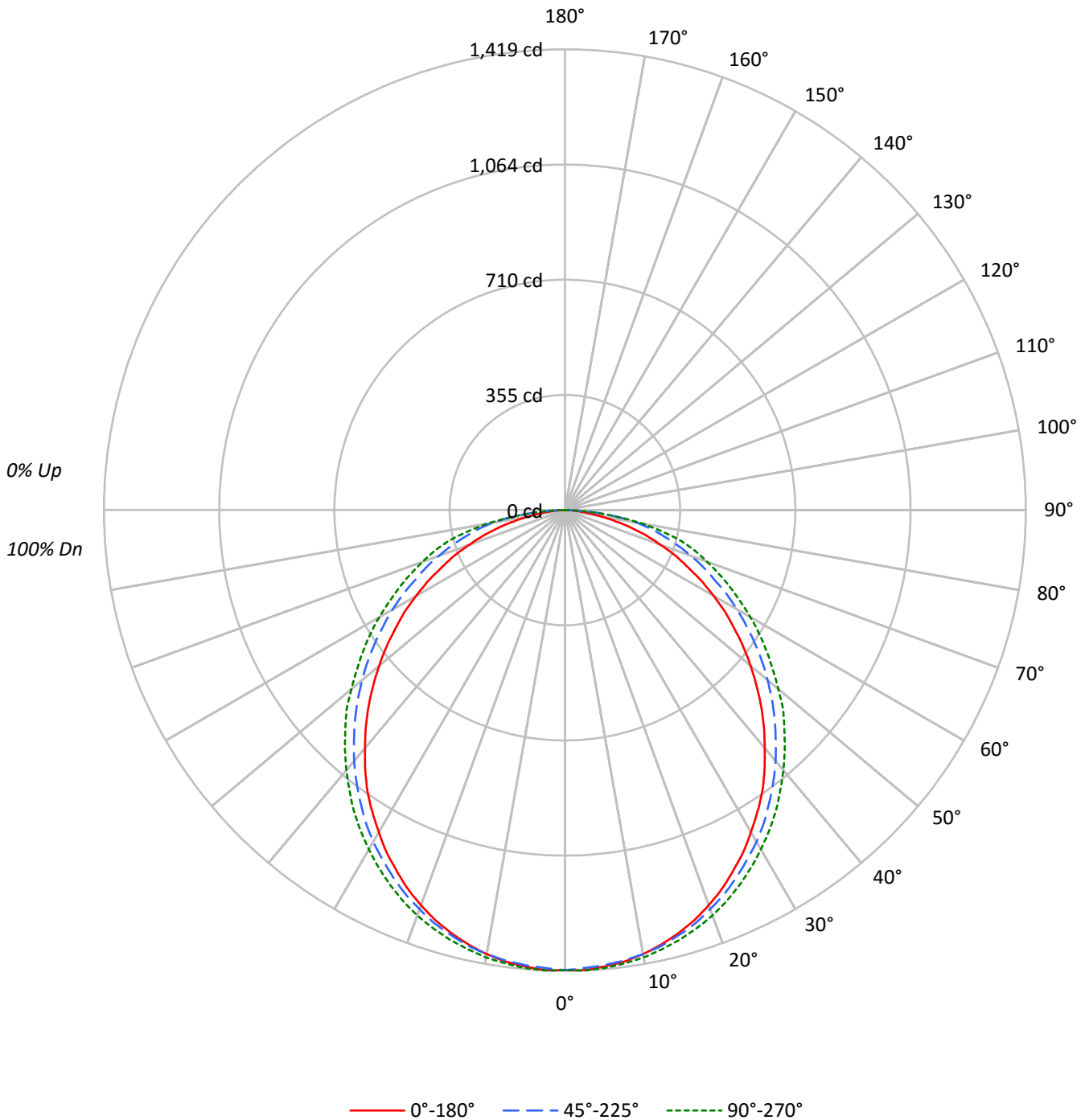
Input Watts (W): 38
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1906	1906	1906
5°	1905	1900	1912
10°	1897	1897	1911
15°	1879	1888	1908
20°	1854	1873	1902
25°	1820	1854	1890
30°	1779	1833	1875
35°	1740	1803	1860
40°	1681	1773	1838
45°	1626	1738	1818
50°	1563	1705	1797
55°	1494	1674	1779
60°	1424	1648	1775
65°	1334	1619	1786
70°	1235	1628	1834
75°	1106	1658	1938
80°	893	1757	1896
85°	673	1542	1504



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.1	3.3
10°-20°	383.3	9.5
20°-30°	576.1	14.3
30°-40°	686.3	17.0
40°-50°	702.4	17.4
50°-60°	632.3	15.7
60°-70°	496.6	12.3
70°-80°	322.3	8.0
80°-90°	99.7	2.5
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°	1093.5	27.1
0°-40°	1779.8	44.1
0°-60°	3114.4	77.2
0°-90°	4033.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4033.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1417	1417	1417	1417	1417	
5°	1410	1413	1407	1414	1416	134
15°	1349	1353	1355	1367	1369	380
25°	1226	1236	1249	1270	1273	565
35°	1059	1072	1098	1125	1132	661
45°	854	875	913	948	956	659
55°	637	665	714	751	758	571
65°	419	451	509	551	561	417
75°	213	254	319	362	373	225
85°	44	81	100	97	97	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1416.8	1416.8	1416.8	1416.8	1416.8
2.5°	1418.1	1418.1	1411.7	1418.1	1419.4
5°	1410.4	1413.0	1406.6	1414.3	1415.5
7.5°	1402.7	1402.7	1398.9	1406.6	1407.9
10°	1388.6	1389.9	1388.6	1397.6	1398.9
12.5°	1370.7	1373.3	1374.5	1383.5	1384.8
15°	1348.9	1352.8	1355.3	1366.9	1369.4
17.5°	1324.6	1328.4	1334.8	1347.6	1350.2
20°	1295.1	1300.2	1307.9	1324.6	1328.4
22.5°	1263.1	1268.2	1281.0	1296.4	1302.8
25°	1225.9	1236.2	1249.0	1269.5	1273.3
27.5°	1188.8	1197.8	1214.4	1236.2	1241.3
30°	1145.2	1159.3	1179.8	1201.6	1206.7
32.5°	1103.0	1117.1	1141.4	1164.5	1170.9
35°	1059.4	1072.2	1097.8	1124.7	1132.4
37.5°	1009.5	1026.1	1054.3	1081.2	1088.9
40°	956.9	977.4	1009.5	1037.6	1046.6
42.5°	907.0	928.7	960.8	991.5	1001.8
45°	854.4	874.9	913.4	948.0	955.6
47.5°	800.6	823.7	864.7	899.3	912.1
50°	746.8	771.2	814.7	850.6	858.3
52.5°	693.0	718.7	764.8	803.2	807.0
55°	636.7	664.9	713.5	750.7	758.4
57.5°	585.4	609.8	662.3	700.7	709.7
60°	529.1	556.0	612.3	648.2	659.7
62.5°	475.3	503.4	562.4	598.2	608.5
65°	418.9	450.9	508.6	550.8	561.1
67.5°	370.2	401.0	462.5	503.4	513.7
70°	313.9	348.4	413.8	456.0	466.3
72.5°	265.2	301.0	366.4	407.4	422.7
75°	212.7	253.6	319.0	362.5	372.8
77.5°	161.4	208.8	275.4	308.7	308.7
80°	115.3	165.3	226.7	242.1	244.7
82.5°	75.6	124.3	167.8	166.5	166.5
85°	43.6	80.7	99.9	97.4	97.4
87.5°	16.7	33.3	35.9	35.9	34.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)