

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: P311338

Luminaire Tested: **24FCZ2-35-UNV-L82765-S-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: P311338
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: 24FCZ2-35-UNV-L82765-S-CP250-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH 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: 3097.0 lumens
Efficiency: N/A
Efficacy: 110.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

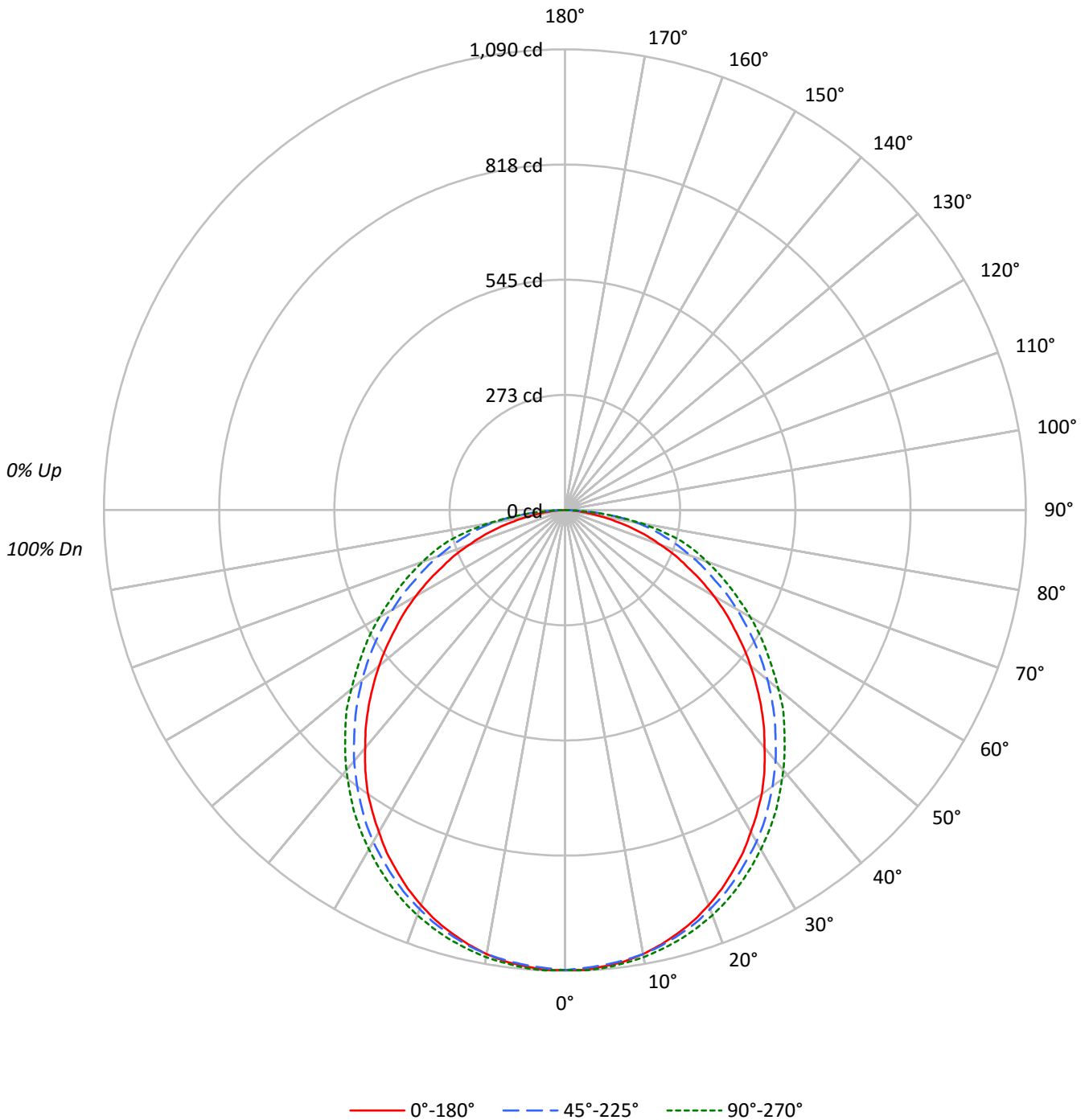
Input Watts (W): 28.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1464	1464	1464
5°	1463	1459	1468
10°	1457	1457	1468
15°	1443	1450	1465
20°	1424	1438	1461
25°	1398	1424	1452
30°	1366	1408	1440
35°	1336	1385	1428
40°	1291	1362	1412
45°	1248	1335	1396
50°	1200	1310	1380
55°	1147	1285	1366
60°	1093	1265	1363
65°	1024	1243	1372
70°	948	1250	1409
75°	849	1273	1488
80°	686	1349	1456
85°	516	1184	1155



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.0	3.3
10°-20°	294.3	9.5
20°-30°	442.4	14.3
30°-40°	527.0	17.0
40°-50°	539.4	17.4
50°-60°	485.6	15.7
60°-70°	381.3	12.3
70°-80°	247.5	8.0
80°-90°	76.5	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°	839.7	27.1
0°-40°	1366.7	44.1
0°-60°	2391.6	77.2
0°-90°	3097.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3097.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1088	1088	1088	1088	1088	
5°	1083	1085	1080	1086	1087	103
15°	1036	1039	1041	1050	1052	292
25°	941	949	959	975	978	434
35°	814	823	843	864	870	508
45°	656	672	701	728	734	506
55°	489	511	548	576	582	438
65°	322	346	390	423	431	320
75°	163	195	245	278	286	173
85°	33	62	77	75	75	40
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1088.0	1088.0	1088.0	1088.0	1088.0
2.5°	1089.0	1089.0	1084.1	1089.0	1090.0
5°	1083.1	1085.0	1080.1	1086.0	1087.0
7.5°	1077.2	1077.2	1074.2	1080.1	1081.1
10°	1066.4	1067.3	1066.4	1073.2	1074.2
12.5°	1052.6	1054.5	1055.5	1062.4	1063.4
15°	1035.9	1038.8	1040.8	1049.6	1051.6
17.5°	1017.2	1020.1	1025.0	1034.9	1036.8
20°	994.5	998.5	1004.4	1017.2	1020.1
22.5°	969.9	973.9	983.7	995.5	1000.4
25°	941.4	949.3	959.1	974.9	977.8
27.5°	912.9	919.8	932.6	949.3	953.2
30°	879.4	890.3	906.0	922.7	926.7
32.5°	847.0	857.8	876.5	894.2	899.1
35°	813.5	823.4	843.0	863.7	869.6
37.5°	775.2	788.0	809.6	830.3	836.2
40°	734.8	750.6	775.2	796.8	803.7
42.5°	696.5	713.2	737.8	761.4	769.3
45°	656.1	671.9	701.4	728.0	733.9
47.5°	614.8	632.5	664.0	690.6	700.4
50°	573.5	592.2	625.6	653.2	659.1
52.5°	532.2	551.9	587.3	616.8	619.7
55°	488.9	510.6	547.9	576.5	582.4
57.5°	449.6	468.3	508.6	538.1	545.0
60°	406.3	426.9	470.2	497.8	506.6
62.5°	365.0	386.6	431.9	459.4	467.3
65°	321.7	346.3	390.5	423.0	430.9
67.5°	284.3	307.9	355.1	386.6	394.5
70°	241.0	267.6	317.7	350.2	358.1
72.5°	203.6	231.2	281.3	312.8	324.6
75°	163.3	194.8	244.9	278.4	286.3
77.5°	123.9	160.3	211.5	237.1	237.1
80°	88.5	126.9	174.1	185.9	187.9
82.5°	58.0	95.4	128.9	127.9	127.9
85°	33.4	62.0	76.7	74.8	74.8
87.5°	12.8	25.6	27.5	27.5	26.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)