

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: P311335

Luminaire Tested: **24FCZ2-35-UNV-L82765-S-CP187-W2A-U-6500K**

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: P311335
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-CP187-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (168) 6500K 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: 3342.0 lumens
Efficiency: N/A
Efficacy: 114.5 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

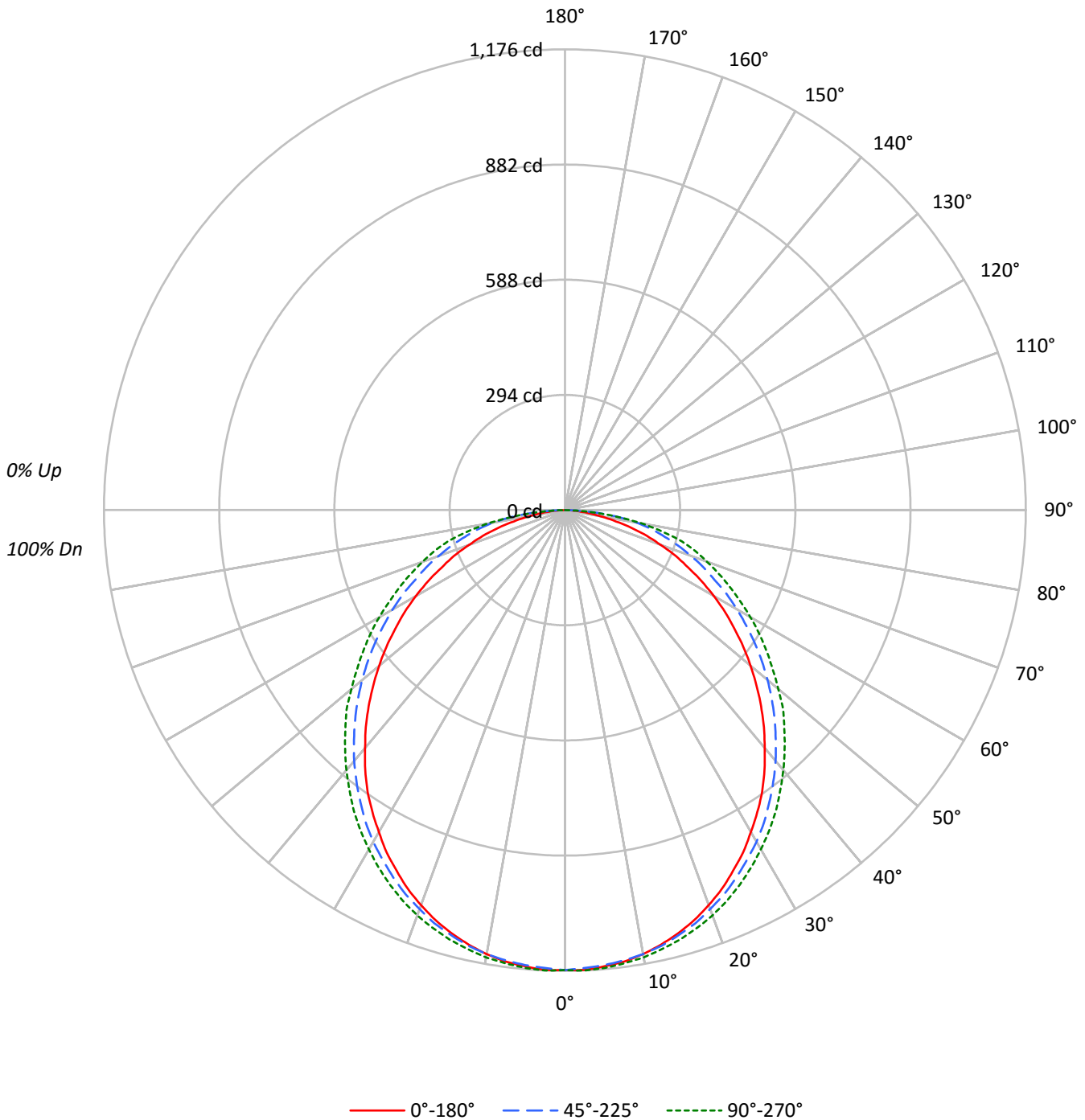
Input Watts (W): 29.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1580	1580	1580
5°	1579	1574	1584
10°	1572	1572	1584
15°	1557	1564	1581
20°	1537	1552	1576
25°	1508	1537	1567
30°	1474	1519	1554
35°	1442	1494	1541
40°	1393	1469	1523
45°	1347	1440	1507
50°	1295	1413	1489
55°	1238	1387	1474
60°	1180	1365	1471
65°	1105	1342	1480
70°	1023	1349	1520
75°	916	1374	1606
80°	740	1456	1571
85°	557	1278	1246



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.1	3.3
10°-20°	317.6	9.5
20°-30°	477.4	14.3
30°-40°	568.7	17.0
40°-50°	582.0	17.4
50°-60°	524.0	15.7
60°-70°	411.5	12.3
70°-80°	267.1	8.0
80°-90°	82.6	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°	906.2	27.1
0°-40°	1474.8	44.1
0°-60°	2580.8	77.2
0°-90°	3342.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3342.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1174	1174	1174	1174	1174	
5°	1169	1171	1166	1172	1173	111
15°	1118	1121	1123	1133	1135	315
25°	1016	1024	1035	1052	1055	468
35°	878	888	910	932	938	548
45°	708	725	757	786	792	546
55°	528	551	591	622	628	473
65°	347	374	421	456	465	346
75°	176	210	264	300	309	186
85°	36	67	83	81	81	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1174.1	1174.1	1174.1	1174.1	1174.1
2.5°	1175.1	1175.1	1169.8	1175.1	1176.2
5°	1168.8	1170.9	1165.6	1171.9	1173.0
7.5°	1162.4	1162.4	1159.2	1165.6	1166.6
10°	1150.7	1151.8	1150.7	1158.1	1159.2
12.5°	1135.9	1138.0	1139.0	1146.5	1147.5
15°	1117.8	1121.0	1123.1	1132.7	1134.8
17.5°	1097.6	1100.8	1106.1	1116.7	1118.9
20°	1073.2	1077.5	1083.8	1097.6	1100.8
22.5°	1046.7	1050.9	1061.5	1074.3	1079.6
25°	1015.9	1024.4	1035.0	1052.0	1055.2
27.5°	985.1	992.5	1006.3	1024.4	1028.6
30°	949.0	960.7	977.7	995.7	1000.0
32.5°	914.0	925.7	945.8	964.9	970.3
35°	877.9	888.5	909.7	932.0	938.4
37.5°	836.5	850.3	873.6	895.9	902.3
40°	793.0	810.0	836.5	859.8	867.3
42.5°	751.6	769.6	796.2	821.6	830.1
45°	708.0	725.0	756.9	785.5	791.9
47.5°	663.5	682.6	716.5	745.2	755.8
50°	618.9	639.0	675.1	704.9	711.2
52.5°	574.3	595.5	633.7	665.6	668.8
55°	527.6	550.9	591.3	622.1	628.4
57.5°	485.1	505.3	548.8	580.7	588.1
60°	438.4	460.7	507.4	537.1	546.7
62.5°	393.8	417.2	466.0	495.7	504.2
65°	347.1	373.7	421.4	456.5	465.0
67.5°	306.8	332.3	383.2	417.2	425.7
70°	260.1	288.7	342.9	377.9	386.4
72.5°	219.7	249.5	303.6	337.6	350.3
75°	176.2	210.2	264.3	300.4	308.9
77.5°	133.8	173.0	228.2	255.8	255.8
80°	95.5	136.9	187.9	200.6	202.8
82.5°	62.6	103.0	139.1	138.0	138.0
85°	36.1	66.9	82.8	80.7	80.7
87.5°	13.8	27.6	29.7	29.7	28.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)