

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: P311285

Luminaire Tested: **24FCZ2-35HE-UNV-L82765-S-CP187-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: P311285
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: 24FCZ2-35HE-UNV-L82765-S-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 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: 3158.0 lumens
Efficiency: N/A
Efficacy: 120.1 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

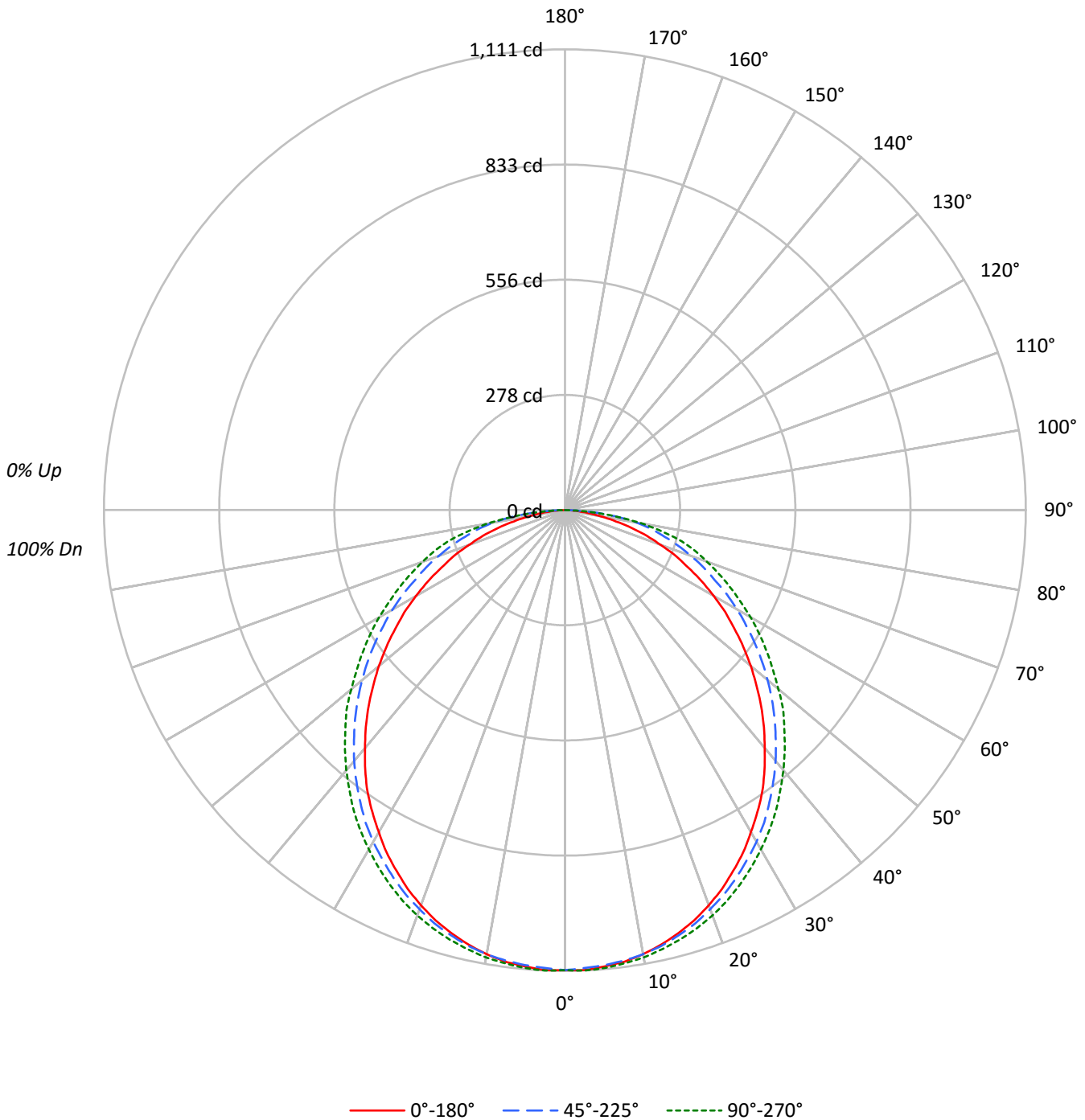
Input Watts (W): 26.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1493	1493	1493
5°	1492	1488	1497
10°	1486	1486	1497
15°	1471	1478	1494
20°	1452	1466	1489
25°	1425	1452	1480
30°	1393	1435	1468
35°	1363	1412	1456
40°	1316	1388	1439
45°	1273	1361	1424
50°	1224	1335	1407
55°	1169	1311	1393
60°	1115	1290	1390
65°	1044	1268	1399
70°	967	1275	1436
75°	866	1299	1517
80°	700	1375	1485
85°	526	1207	1176



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.0	3.3
10°-20°	300.1	9.5
20°-30°	451.1	14.3
30°-40°	537.4	17.0
40°-50°	550.0	17.4
50°-60°	495.1	15.7
60°-70°	388.8	12.3
70°-80°	252.4	8.0
80°-90°	78.0	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°	856.3	27.1
0°-40°	1393.6	44.1
0°-60°	2438.7	77.2
0°-90°	3158.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3158.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1109	1109	1109	1109	1109	
5°	1104	1106	1101	1107	1108	105
15°	1056	1059	1061	1070	1072	298
25°	960	968	978	994	997	442
35°	830	840	860	881	887	518
45°	669	685	715	742	748	516
55°	498	521	559	588	594	447
65°	328	353	398	431	439	327
75°	166	199	250	284	292	176
85°	34	63	78	76	76	41
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1109.4	1109.4	1109.4	1109.4	1109.4
2.5°	1110.4	1110.4	1105.4	1110.4	1111.4
5°	1104.4	1106.4	1101.4	1107.4	1108.4
7.5°	1098.4	1098.4	1095.4	1101.4	1102.4
10°	1087.4	1088.4	1087.4	1094.4	1095.4
12.5°	1073.3	1075.3	1076.3	1083.3	1084.3
15°	1056.3	1059.3	1061.3	1070.3	1072.3
17.5°	1037.2	1040.2	1045.2	1055.3	1057.3
20°	1014.1	1018.1	1024.2	1037.2	1040.2
22.5°	989.1	993.1	1003.1	1015.1	1020.2
25°	960.0	968.0	978.0	994.1	997.1
27.5°	930.9	937.9	950.9	968.0	972.0
30°	896.8	907.8	923.9	940.9	944.9
32.5°	863.7	874.7	893.8	911.8	916.8
35°	829.6	839.6	859.7	880.7	886.7
37.5°	790.4	803.5	825.5	846.6	852.6
40°	749.3	765.4	790.4	812.5	819.5
42.5°	710.2	727.2	752.3	776.4	784.4
45°	669.1	685.1	715.2	742.3	748.3
47.5°	626.9	645.0	677.1	704.2	714.2
50°	584.8	603.9	638.0	666.1	672.1
52.5°	542.7	562.7	598.8	628.9	632.0
55°	498.5	520.6	558.7	587.8	593.8
57.5°	458.4	477.5	518.6	548.7	555.7
60°	414.3	435.3	479.5	507.6	516.6
62.5°	372.1	394.2	440.4	468.4	476.5
65°	328.0	353.1	398.2	431.3	439.4
67.5°	289.9	314.0	362.1	394.2	402.2
70°	245.8	272.8	324.0	357.1	365.1
72.5°	207.6	235.7	286.9	319.0	331.0
75°	166.5	198.6	249.8	283.9	291.9
77.5°	126.4	163.5	215.7	241.7	241.7
80°	90.3	129.4	177.5	189.6	191.6
82.5°	59.2	97.3	131.4	130.4	130.4
85°	34.1	63.2	78.2	76.2	76.2
87.5°	13.0	26.1	28.1	28.1	27.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)