

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: P311257

Luminaire Tested: **24FCZ2-35HE-UNV-L82765-S-CA08-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: P311257
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-CA08-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 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: 3302.0 lumens
Efficiency: N/A
Efficacy: 126.5 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

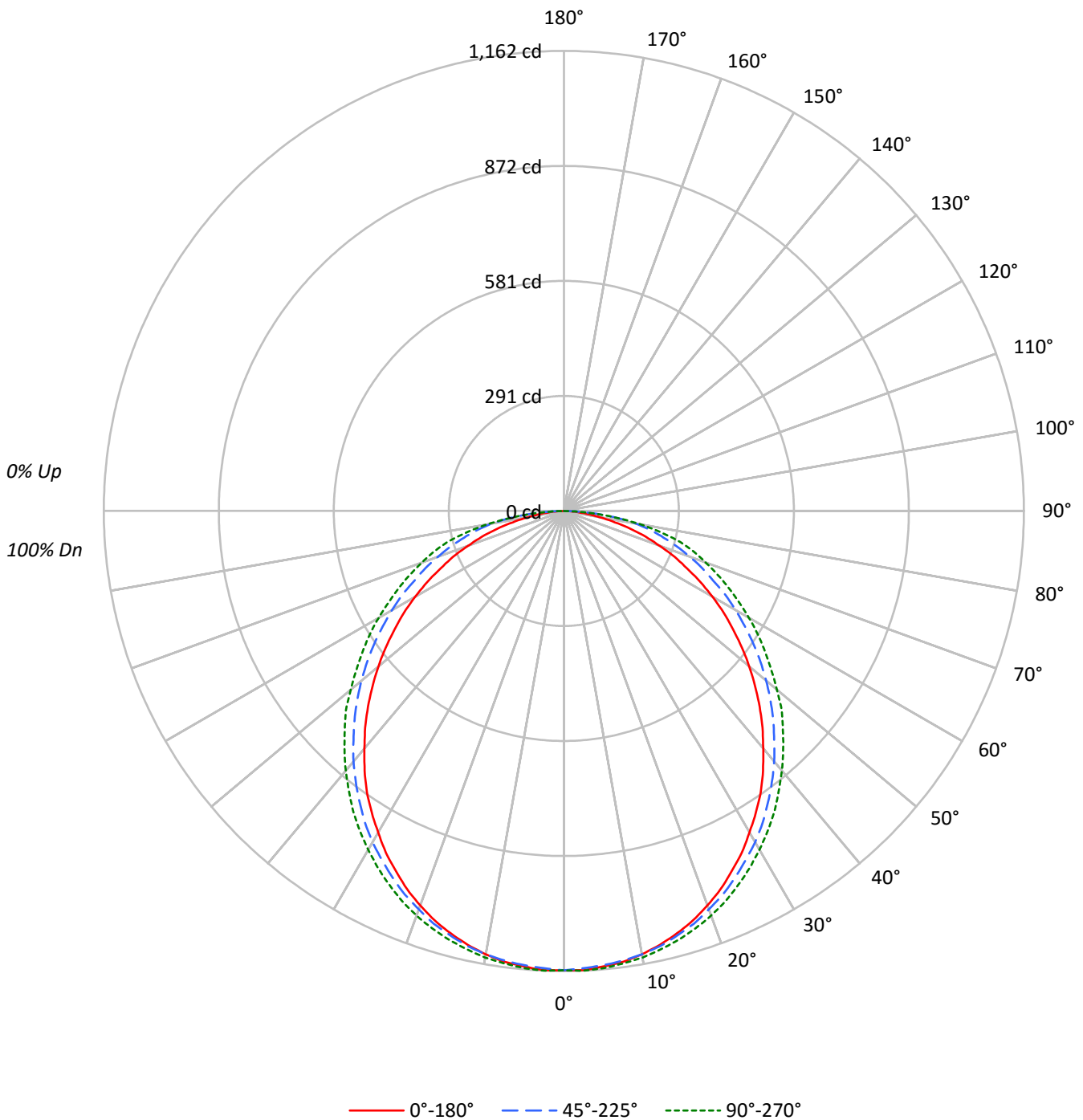
Input Watts (W): 26.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1561	1561	1561
5°	1560	1555	1565
10°	1553	1553	1565
15°	1538	1546	1562
20°	1518	1533	1557
25°	1490	1518	1548
30°	1457	1501	1535
35°	1425	1476	1523
40°	1376	1452	1505
45°	1331	1423	1489
50°	1280	1396	1471
55°	1223	1370	1457
60°	1166	1349	1454
65°	1092	1326	1463
70°	1011	1333	1502
75°	905	1358	1587
80°	731	1438	1552
85°	551	1263	1230



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.8	3.3
10°-20°	313.8	9.5
20°-30°	471.7	14.3
30°-40°	561.9	17.0
40°-50°	575.1	17.4
50°-60°	517.7	15.7
60°-70°	406.6	12.3
70°-80°	263.9	8.0
80°-90°	81.6	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°	895.3	27.1
0°-40°	1457.2	44.1
0°-60°	2549.9	77.2
0°-90°	3302.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3302.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1160	1160	1160	1160	1160	
5°	1155	1157	1152	1158	1159	110
15°	1104	1108	1110	1119	1121	311
25°	1004	1012	1023	1039	1042	462
35°	867	878	899	921	927	541
45°	700	716	748	776	782	539
55°	521	544	584	615	621	467
65°	343	369	416	451	459	341
75°	174	208	261	297	305	184
85°	36	66	82	80	80	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1160.0	1160.0	1160.0	1160.0	1160.0
2.5°	1161.1	1161.1	1155.8	1161.1	1162.1
5°	1154.8	1156.9	1151.6	1157.9	1159.0
7.5°	1148.5	1148.5	1145.3	1151.6	1152.7
10°	1136.9	1138.0	1136.9	1144.3	1145.3
12.5°	1122.3	1124.4	1125.4	1132.7	1133.8
15°	1104.4	1107.6	1109.7	1119.1	1121.2
17.5°	1084.5	1087.6	1092.9	1103.4	1105.5
20°	1060.4	1064.6	1070.9	1084.5	1087.6
22.5°	1034.2	1038.3	1048.8	1061.4	1066.7
25°	1003.7	1012.1	1022.6	1039.4	1042.5
27.5°	973.3	980.7	994.3	1012.1	1016.3
30°	937.7	949.2	966.0	983.8	988.0
32.5°	903.0	914.6	934.5	953.4	958.6
35°	867.4	877.9	898.9	920.9	927.2
37.5°	826.5	840.1	863.2	885.2	891.5
40°	783.5	800.3	826.5	849.6	856.9
42.5°	742.6	760.4	786.6	811.8	820.2
45°	699.6	716.4	747.8	776.1	782.4
47.5°	655.5	674.4	708.0	736.3	746.8
50°	611.5	631.4	667.1	696.4	702.7
52.5°	567.4	588.4	626.2	657.6	660.8
55°	521.3	544.3	584.2	614.6	620.9
57.5°	479.3	499.2	542.2	573.7	581.1
60°	433.2	455.2	501.3	530.7	540.2
62.5°	389.1	412.2	460.4	489.8	498.2
65°	343.0	369.2	416.4	451.0	459.4
67.5°	303.1	328.3	378.6	412.2	420.6
70°	257.0	285.3	338.8	373.4	381.8
72.5°	217.1	246.5	300.0	333.5	346.1
75°	174.1	207.7	261.2	296.8	305.2
77.5°	132.2	171.0	225.5	252.8	252.8
80°	94.4	135.3	185.6	198.2	200.3
82.5°	61.9	101.7	137.4	136.3	136.3
85°	35.7	66.1	81.8	79.7	79.7
87.5°	13.6	27.3	29.4	29.4	28.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)