

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: P311258

Luminaire Tested: **24FCZ2-35HE-UNV-L82765-S-CA08-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: P311258
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-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC 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: 3375.0 lumens
Efficiency: N/A
Efficacy: 128.3 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

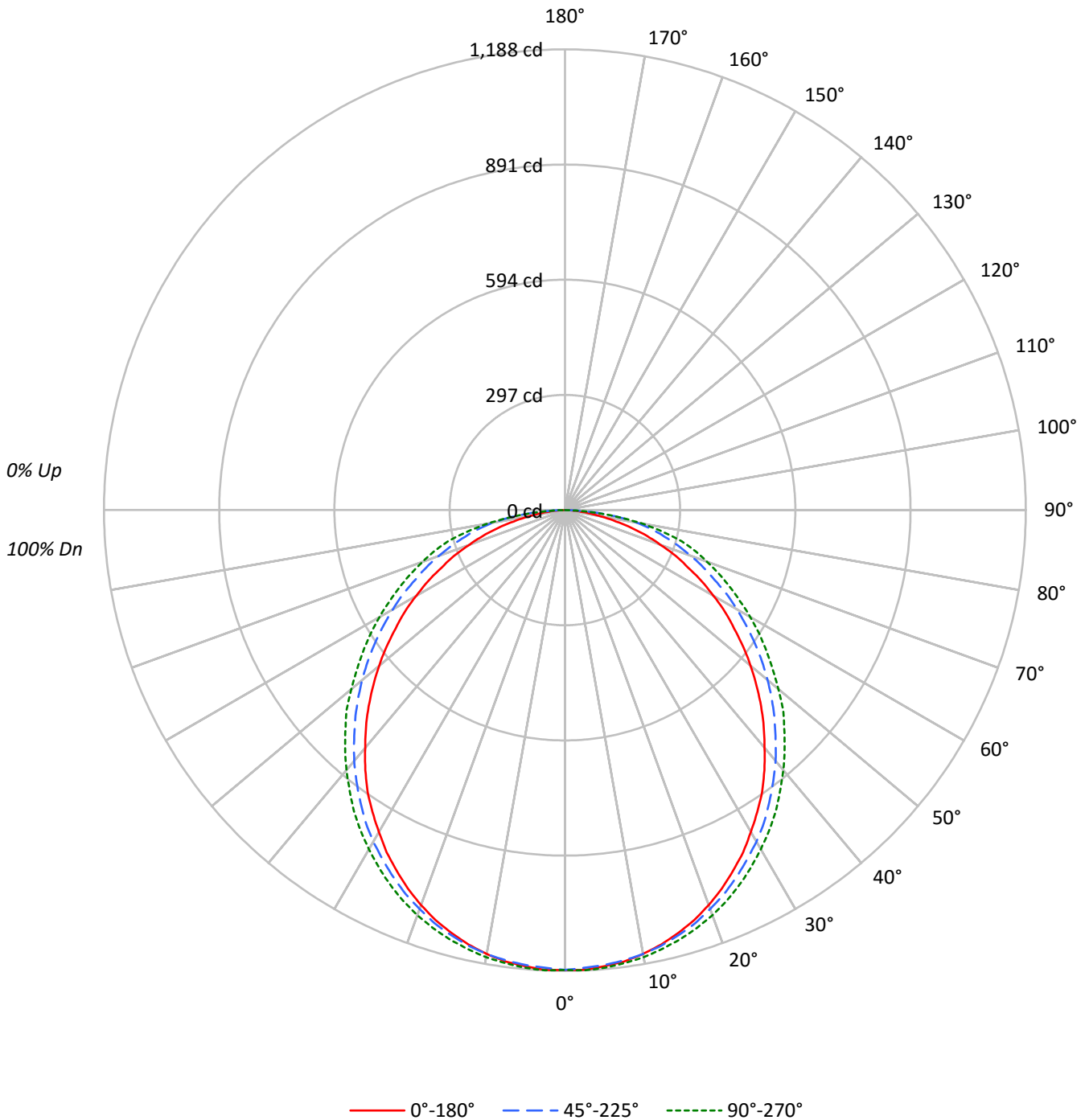
Input Watts (W): 26.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	108	103	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83				83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69				69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58				58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49				49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42				42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37				37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33				33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29				29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26				26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24				24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1595	1595	1595
5°	1594	1590	1600
10°	1588	1588	1599
15°	1572	1580	1596
20°	1552	1567	1592
25°	1523	1552	1582
30°	1489	1534	1569
35°	1456	1509	1557
40°	1407	1484	1538
45°	1361	1455	1522
50°	1308	1427	1504
55°	1250	1401	1489
60°	1191	1379	1486
65°	1116	1355	1495
70°	1033	1362	1535
75°	925	1387	1622
80°	748	1470	1587
85°	562	1291	1258



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.2	3.3
10°-20°	320.7	9.5
20°-30°	482.1	14.3
30°-40°	574.3	17.0
40°-50°	587.8	17.4
50°-60°	529.2	15.7
60°-70°	415.6	12.3
70°-80°	269.7	8.0
80°-90°	83.4	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°	915.1	27.1
0°-40°	1489.4	44.1
0°-60°	2606.3	77.2
0°-90°	3375.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3375.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1186	1186	1186	1186	1186	
5°	1180	1182	1177	1184	1185	112
15°	1129	1132	1134	1144	1146	318
25°	1026	1034	1045	1062	1066	473
35°	887	897	919	941	948	553
45°	715	732	764	793	800	551
55°	533	556	597	628	635	478
65°	351	377	426	461	470	349
75°	178	212	267	303	312	188
85°	36	68	84	82	82	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1185.7	1185.7	1185.7	1185.7	1185.7
2.5°	1186.7	1186.7	1181.4	1186.7	1187.8
5°	1180.3	1182.4	1177.1	1183.5	1184.6
7.5°	1173.9	1173.9	1170.7	1177.1	1178.2
10°	1162.1	1163.1	1162.1	1169.6	1170.7
12.5°	1147.1	1149.2	1150.3	1157.8	1158.9
15°	1128.8	1132.1	1134.2	1143.9	1146.0
17.5°	1108.5	1111.7	1117.0	1127.8	1129.9
20°	1083.8	1088.1	1094.5	1108.5	1111.7
22.5°	1057.0	1061.3	1072.0	1084.9	1090.2
25°	1025.9	1034.5	1045.2	1062.4	1065.6
27.5°	994.8	1002.3	1016.3	1034.5	1038.8
30°	958.4	970.2	987.3	1005.6	1009.8
32.5°	923.0	934.8	955.2	974.5	979.8
35°	886.6	897.3	918.7	941.2	947.7
37.5°	844.8	858.7	882.3	904.8	911.2
40°	800.8	818.0	844.8	868.3	875.8
42.5°	759.0	777.2	804.0	829.7	838.3
45°	715.0	732.2	764.4	793.3	799.7
47.5°	670.0	689.3	723.6	752.6	763.3
50°	625.0	645.4	681.8	711.8	718.3
52.5°	580.0	601.4	640.0	672.2	675.4
55°	532.8	556.4	597.1	628.2	634.6
57.5°	489.9	510.3	554.2	586.4	593.9
60°	442.7	465.3	512.4	542.4	552.1
62.5°	397.7	421.3	470.6	500.6	509.2
65°	350.6	377.4	425.6	461.0	469.5
67.5°	309.8	335.5	387.0	421.3	429.9
70°	262.6	291.6	346.3	381.6	390.2
72.5°	221.9	251.9	306.6	340.9	353.8
75°	178.0	212.3	266.9	303.4	312.0
77.5°	135.1	174.7	230.5	258.4	258.4
80°	96.5	138.3	189.7	202.6	204.8
82.5°	63.2	104.0	140.4	139.4	139.4
85°	36.4	67.5	83.6	81.5	81.5
87.5°	13.9	27.9	30.0	30.0	28.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)