

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: P311301

Luminaire Tested: **24FCZ2-35-UNV-L82765-S-CA08-W2A-U-3000K**

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: P311301
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-CA08-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 3000K 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

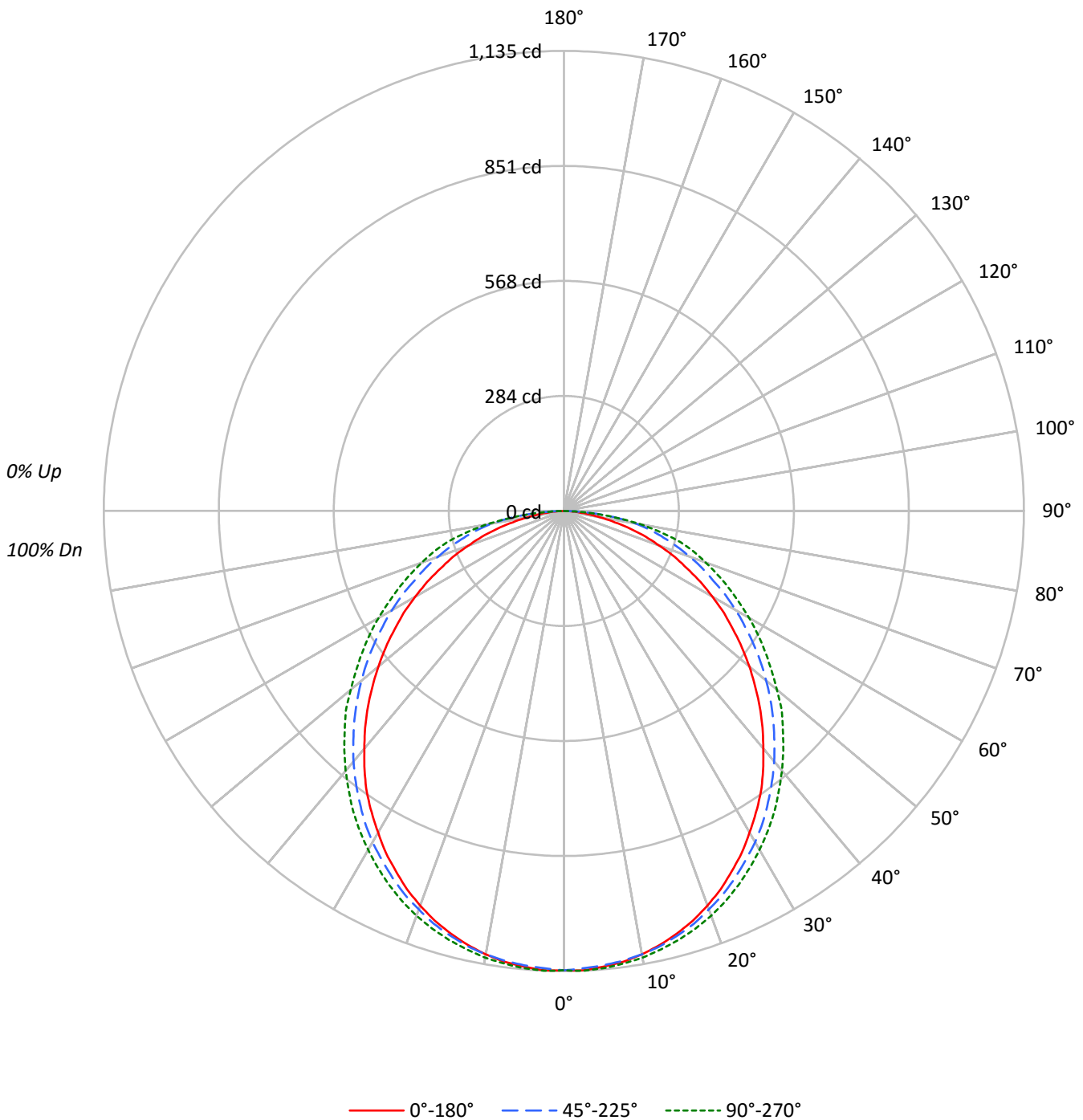
Lumens per Lamp: N/A
Luminaire Lumens: 3226.0 lumens
Efficiency: N/A
Efficacy: 116.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 27.8
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°	1525	1525	1525
5°	1524	1520	1529
10°	1518	1518	1529
15°	1503	1510	1526
20°	1483	1498	1521
25°	1456	1483	1512
30°	1423	1466	1500
35°	1392	1442	1488
40°	1344	1418	1470
45°	1301	1390	1455
50°	1250	1364	1437
55°	1195	1339	1423
60°	1139	1318	1420
65°	1067	1295	1429
70°	988	1302	1467
75°	884	1326	1550
80°	714	1406	1516
85°	537	1233	1203



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.3	3.3
10°-20°	306.6	9.5
20°-30°	460.8	14.3
30°-40°	548.9	17.0
40°-50°	561.8	17.4
50°-60°	505.8	15.7
60°-70°	397.2	12.3
70°-80°	257.8	8.0
80°-90°	79.7	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°	874.7	27.1
0°-40°	1423.6	44.1
0°-60°	2491.3	77.2
0°-90°	3226.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3226.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1133	1133	1133	1133	1133	
5°	1128	1130	1125	1131	1132	107
15°	1079	1082	1084	1093	1095	304
25°	981	989	999	1016	1018	452
35°	847	858	878	900	906	529
45°	684	700	731	758	764	527
55°	509	532	571	600	607	457
65°	335	361	407	441	449	334
75°	170	203	255	290	298	180
85°	35	65	80	78	78	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1133.3	1133.3	1133.3	1133.3	1133.3
2.5°	1134.3	1134.3	1129.2	1134.3	1135.4
5°	1128.2	1130.2	1125.1	1131.3	1132.3
7.5°	1122.0	1122.0	1119.0	1125.1	1126.1
10°	1110.8	1111.8	1110.8	1117.9	1119.0
12.5°	1096.4	1098.5	1099.5	1106.7	1107.7
15°	1079.0	1082.1	1084.1	1093.4	1095.4
17.5°	1059.5	1062.6	1067.7	1078.0	1080.0
20°	1036.0	1040.1	1046.2	1059.5	1062.6
22.5°	1010.4	1014.5	1024.7	1037.0	1042.1
25°	980.6	988.8	999.1	1015.5	1018.5
27.5°	950.9	958.1	971.4	988.8	992.9
30°	916.1	927.4	943.7	961.2	965.3
32.5°	882.3	893.5	913.0	931.4	936.6
35°	847.4	857.7	878.2	899.7	905.8
37.5°	807.5	820.8	843.3	864.8	871.0
40°	765.4	781.8	807.5	830.0	837.2
42.5°	725.5	742.9	768.5	793.1	801.3
45°	683.5	699.9	730.6	758.3	764.4
47.5°	640.4	658.9	691.7	719.3	729.6
50°	597.4	616.9	651.7	680.4	686.5
52.5°	554.4	574.9	611.7	642.5	645.6
55°	509.3	531.8	570.8	600.5	606.6
57.5°	468.3	487.8	529.8	560.5	567.7
60°	423.2	444.7	489.8	518.5	527.7
62.5°	380.2	402.7	449.8	478.5	486.7
65°	335.1	360.7	406.8	440.6	448.8
67.5°	296.1	320.7	369.9	402.7	410.9
70°	251.1	278.7	331.0	364.8	373.0
72.5°	212.1	240.8	293.1	325.9	338.2
75°	170.1	202.9	255.1	290.0	298.2
77.5°	129.1	167.0	220.3	247.0	247.0
80°	92.2	132.2	181.4	193.7	195.7
82.5°	60.5	99.4	134.2	133.2	133.2
85°	34.8	64.6	79.9	77.9	77.9
87.5°	13.3	26.6	28.7	28.7	27.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)