

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: P310769

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-CA125-W2A-U-2700K**

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: P310769
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-45HE-UNV-L82765-CA125-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" ACRYLIC SHEET
Light Source: (336) 2700K 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: 3749.0 lumens
Efficiency: N/A
Efficacy: 110.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

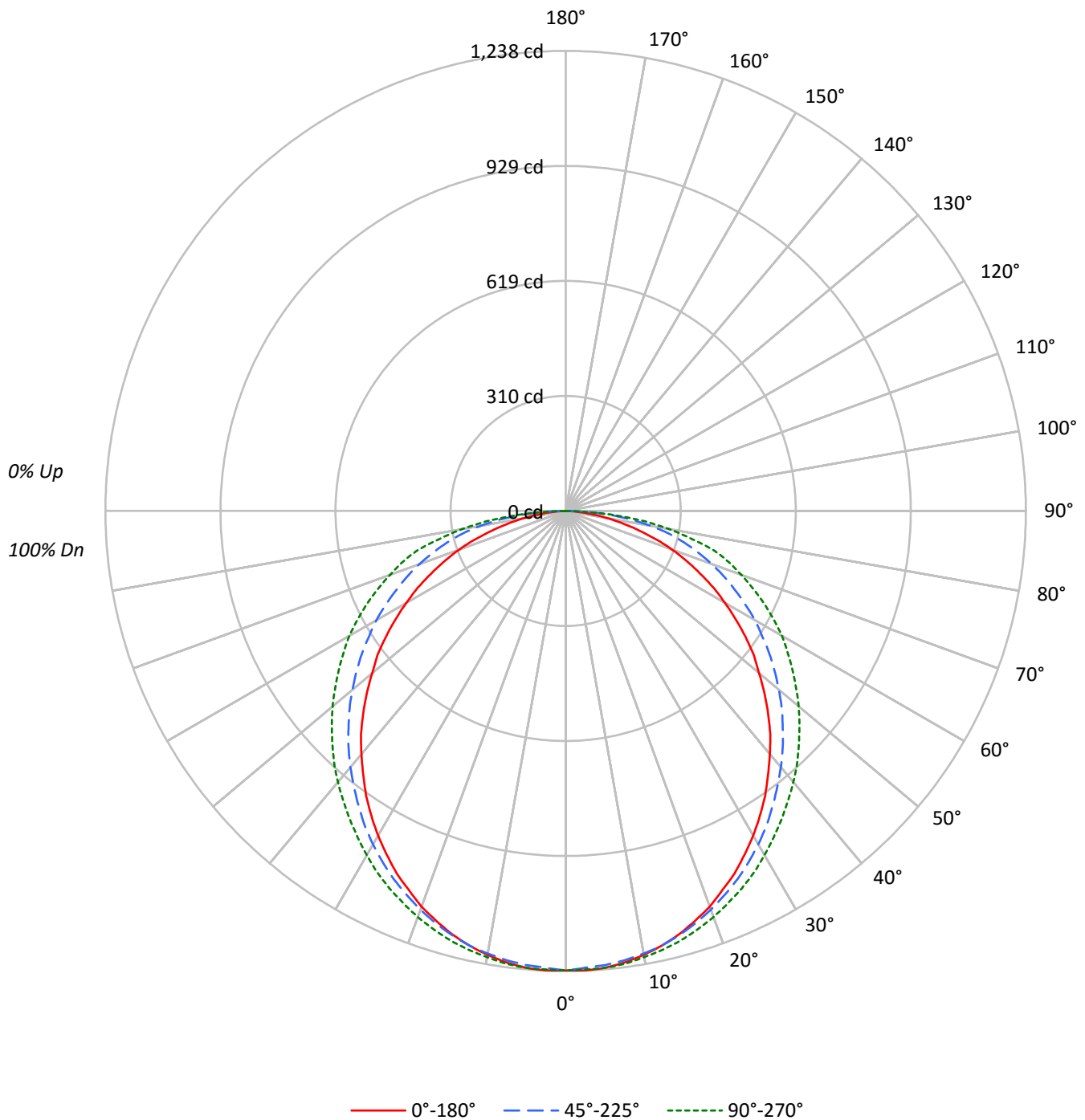
Input Watts (W): 33.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	100	96	92	96	92	89		92	89	87		82
2	98	89	81	75	95	87	80	74	83	78	73		80	75	71		67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		56
4	81	68	59	52	79	67	58	52	64	57	51		62	56	50		47
5	74	61	52	45	72	60	51	44	58	50	44		56	49	43		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	64	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	37	31	57	45	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1664	1664	1664
5°	1667	1656	1667
10°	1657	1652	1665
15°	1643	1646	1667
20°	1622	1635	1665
25°	1597	1623	1664
30°	1567	1610	1662
35°	1536	1594	1663
40°	1501	1582	1674
45°	1465	1572	1688
50°	1421	1567	1713
55°	1386	1570	1748
60°	1332	1583	1808
65°	1271	1600	1873
70°	1204	1649	1977
75°	1074	1720	2159
80°	916	1822	2207
85°	653	1805	2112



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.0	3.1
10°-20°	334.6	8.9
20°-30°	505.3	13.5
30°-40°	609.1	16.2
40°-50°	639.4	17.1
50°-60°	598.2	16.0
60°-70°	494.0	13.2
70°-80°	336.6	9.0
80°-90°	114.8	3.1
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°	956.9	25.5
0°-40°	1566.0	41.8
0°-60°	2803.6	74.8
0°-90°	3749.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3749.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1236	1236	1236	1236	1236	
5°	1234	1233	1226	1234	1234	117
15°	1179	1180	1182	1194	1197	332
25°	1076	1081	1093	1114	1121	495
35°	935	945	970	1002	1012	585
45°	770	786	826	871	887	594
55°	591	614	669	724	745	527
65°	399	433	502	566	588	396
75°	206	254	331	393	415	220
85°	42	83	117	132	137	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1236.4	1236.4	1236.4	1236.4	1236.4
2.5°	1237.6	1236.4	1230.2	1236.4	1235.1
5°	1233.9	1232.7	1226.4	1233.9	1233.9
7.5°	1225.2	1225.2	1219.0	1227.7	1228.9
10°	1212.8	1212.8	1209.0	1219.0	1219.0
12.5°	1197.8	1197.8	1197.8	1207.8	1209.0
15°	1179.2	1180.4	1181.7	1194.1	1196.6
17.5°	1156.8	1159.3	1163.0	1177.9	1180.4
20°	1133.1	1135.6	1141.9	1159.3	1163.0
22.5°	1103.3	1109.5	1118.2	1138.1	1141.9
25°	1075.9	1080.9	1093.3	1114.5	1120.7
27.5°	1042.3	1049.8	1066.0	1088.4	1097.1
30°	1008.8	1016.2	1036.1	1062.2	1069.7
32.5°	972.7	983.9	1005.0	1032.4	1041.1
35°	935.4	945.3	970.2	1002.5	1012.5
37.5°	894.3	908.0	935.4	970.2	982.6
40°	854.5	869.5	900.5	937.9	952.8
42.5°	814.7	829.6	864.5	906.8	921.7
45°	769.9	786.1	825.9	870.7	886.9
47.5°	725.2	745.1	788.6	835.9	853.3
50°	679.1	701.5	748.8	798.6	818.5
52.5°	638.1	659.2	709.0	762.5	781.1
55°	590.8	614.5	669.2	723.9	745.1
57.5°	542.3	568.4	626.9	686.6	707.8
60°	495.1	523.7	588.3	648.0	671.7
62.5°	449.0	477.6	544.8	607.0	630.6
65°	399.3	432.9	502.5	566.0	588.3
67.5°	352.0	388.1	461.5	523.7	546.1
70°	306.0	340.8	419.2	480.1	502.5
72.5°	256.2	296.0	374.4	437.8	461.5
75°	206.5	253.7	330.9	393.1	415.4
77.5°	160.5	209.0	286.1	337.1	348.3
80°	118.2	167.9	235.1	271.2	284.8
82.5°	75.9	125.6	179.1	205.2	216.4
85°	42.3	83.3	116.9	131.8	136.8
87.5°	17.4	36.1	47.3	53.5	53.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)