

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: P310671

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-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: P310671
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: 24FCZ2-40HE-UNV-L82765-CA08-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 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: 3515.0 lumens
Efficiency: N/A
Efficacy: 116.4 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

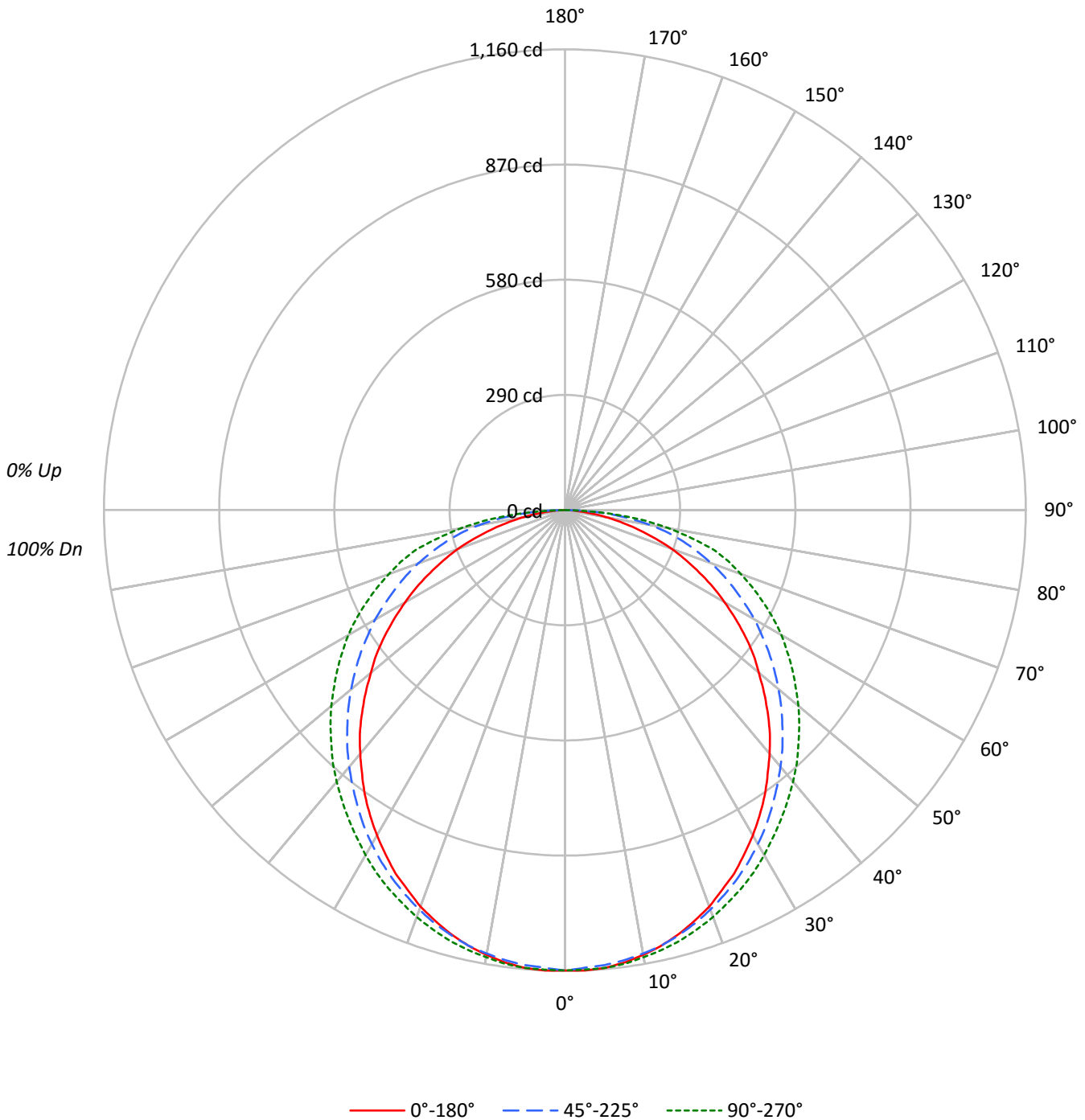
Input Watts (W): 30.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1560	1560	1560
5°	1563	1553	1563
10°	1554	1549	1561
15°	1540	1543	1563
20°	1521	1533	1561
25°	1498	1522	1560
30°	1469	1509	1558
35°	1441	1494	1559
40°	1407	1483	1569
45°	1374	1474	1582
50°	1333	1470	1606
55°	1300	1472	1639
60°	1249	1484	1695
65°	1192	1500	1756
70°	1129	1546	1854
75°	1006	1613	2025
80°	859	1708	2070
85°	613	1692	1981



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.7	3.1
10°-20°	313.7	8.9
20°-30°	473.8	13.5
30°-40°	571.0	16.2
40°-50°	599.5	17.1
50°-60°	560.9	16.0
60°-70°	463.2	13.2
70°-80°	315.6	9.0
80°-90°	107.6	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°	897.2	25.5
0°-40°	1468.2	41.8
0°-60°	2628.6	74.8
0°-90°	3515.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3515.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1159	1159	1159	1159	1159	
5°	1157	1156	1150	1157	1157	110
15°	1106	1107	1108	1120	1122	312
25°	1009	1013	1025	1045	1051	464
35°	877	886	910	940	949	548
45°	722	737	774	816	832	557
55°	554	576	627	679	699	494
65°	374	406	471	531	552	371
75°	194	238	310	368	390	206
85°	40	78	110	124	128	50
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1159.2	1159.2	1159.2	1159.2	1159.2
2.5°	1160.4	1159.2	1153.4	1159.2	1158.1
5°	1156.9	1155.7	1149.9	1156.9	1156.9
7.5°	1148.7	1148.7	1142.9	1151.1	1152.2
10°	1137.1	1137.1	1133.6	1142.9	1142.9
12.5°	1123.1	1123.1	1123.1	1132.4	1133.6
15°	1105.6	1106.7	1107.9	1119.6	1121.9
17.5°	1084.6	1086.9	1090.4	1104.4	1106.7
20°	1062.4	1064.8	1070.6	1086.9	1090.4
22.5°	1034.4	1040.3	1048.4	1067.1	1070.6
25°	1008.8	1013.4	1025.1	1044.9	1050.8
27.5°	977.3	984.3	999.4	1020.4	1028.6
30°	945.8	952.8	971.5	995.9	1002.9
32.5°	912.0	922.5	942.3	968.0	976.1
35°	877.0	886.3	909.6	940.0	949.3
37.5°	838.5	851.3	877.0	909.6	921.3
40°	801.2	815.2	844.3	879.3	893.3
42.5°	763.9	777.9	810.5	850.2	864.2
45°	721.9	737.0	774.4	816.3	831.5
47.5°	679.9	698.6	739.4	783.7	800.0
50°	636.8	657.7	702.1	748.7	767.4
52.5°	598.3	618.1	664.7	714.9	732.4
55°	554.0	576.1	627.4	678.7	698.6
57.5°	508.5	533.0	587.8	643.7	663.6
60°	464.2	491.0	551.6	607.6	629.8
62.5°	421.0	447.8	510.8	569.1	591.3
65°	374.4	405.8	471.2	530.6	551.6
67.5°	330.0	363.9	432.7	491.0	512.0
70°	286.9	319.5	393.0	450.2	471.2
72.5°	240.2	277.6	351.0	410.5	432.7
75°	193.6	237.9	310.2	368.5	389.5
77.5°	150.4	195.9	268.2	316.0	326.5
80°	110.8	157.4	220.4	254.2	267.1
82.5°	71.1	117.8	167.9	192.4	202.9
85°	39.7	78.1	109.6	123.6	128.3
87.5°	16.3	33.8	44.3	50.1	50.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)