

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: P310710

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-CP250-W2A-U-4500K**

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: P310710
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-CP250-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 4500K 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: 3511.0 lumens
Efficiency: N/A
Efficacy: 113.3 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

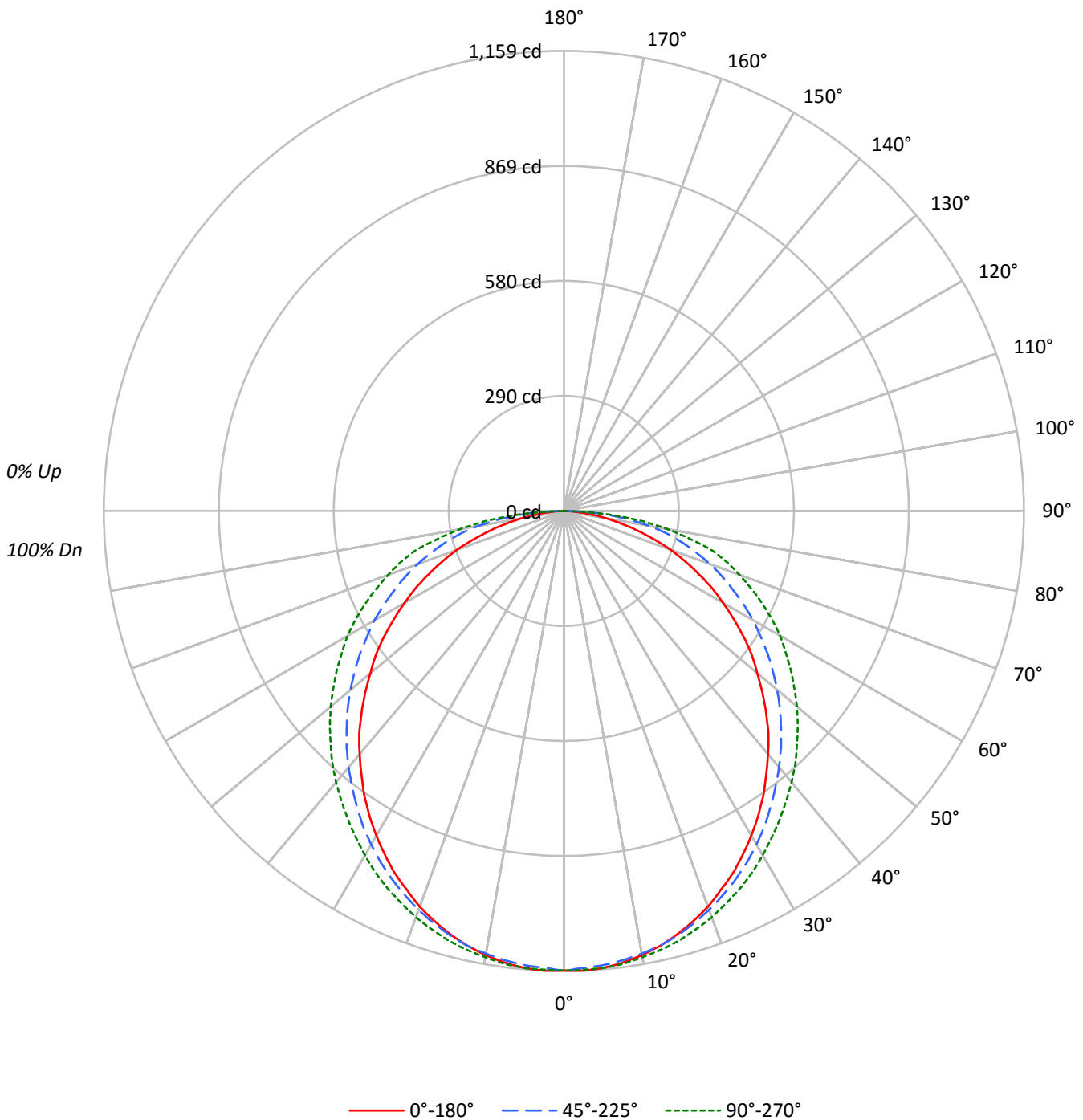
Input Watts (W): 31
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1558	1558	1558
5°	1561	1551	1561
10°	1552	1547	1560
15°	1538	1541	1561
20°	1519	1531	1560
25°	1496	1520	1558
30°	1468	1508	1556
35°	1439	1492	1557
40°	1406	1481	1567
45°	1372	1472	1580
50°	1331	1468	1604
55°	1298	1470	1637
60°	1248	1483	1693
65°	1190	1498	1754
70°	1127	1544	1851
75°	1005	1611	2023
80°	858	1706	2067
85°	611	1690	1978



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.6	3.1
10°-20°	313.3	8.9
20°-30°	473.3	13.5
30°-40°	570.4	16.2
40°-50°	598.8	17.1
50°-60°	560.2	16.0
60°-70°	462.6	13.2
70°-80°	315.3	9.0
80°-90°	107.5	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°	896.2	25.5
0°-40°	1466.6	41.8
0°-60°	2625.6	74.8
0°-90°	3511.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3511.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1158	1158	1158	1158	1158	
5°	1156	1154	1149	1156	1156	110
15°	1104	1106	1107	1118	1121	311
25°	1008	1012	1024	1044	1050	464
35°	876	885	909	939	948	547
45°	721	736	774	815	831	556
55°	553	576	627	678	698	494
65°	374	405	471	530	551	371
75°	193	238	310	368	389	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°	1157.9	1157.9	1157.9	1157.9	1157.9
2.5°	1159.1	1157.9	1152.1	1157.9	1156.7
5°	1155.6	1154.4	1148.6	1155.6	1155.6
7.5°	1147.4	1147.4	1141.6	1149.7	1150.9
10°	1135.8	1135.8	1132.3	1141.6	1141.6
12.5°	1121.8	1121.8	1121.8	1131.1	1132.3
15°	1104.3	1105.5	1106.6	1118.3	1120.6
17.5°	1083.3	1085.7	1089.2	1103.1	1105.5
20°	1061.2	1063.5	1069.4	1085.7	1089.2
22.5°	1033.3	1039.1	1047.2	1065.9	1069.4
25°	1007.6	1012.3	1023.9	1043.7	1049.6
27.5°	976.2	983.2	998.3	1019.3	1027.4
30°	944.7	951.7	970.4	994.8	1001.8
32.5°	910.9	921.4	941.2	966.9	975.0
35°	876.0	885.3	908.6	938.9	948.2
37.5°	837.6	850.4	876.0	908.6	920.3
40°	800.3	814.3	843.4	878.3	892.3
42.5°	763.0	777.0	809.6	849.2	863.2
45°	721.1	736.2	773.5	815.4	830.6
47.5°	679.1	697.8	738.5	782.8	799.1
50°	636.0	657.0	701.3	747.9	766.5
52.5°	597.6	617.4	664.0	714.1	731.5
55°	553.3	575.5	626.7	678.0	697.8
57.5°	507.9	532.4	587.1	643.0	662.8
60°	463.6	490.4	551.0	606.9	629.0
62.5°	420.5	447.3	510.2	568.5	590.6
65°	373.9	405.4	470.6	530.0	551.0
67.5°	329.7	363.4	432.2	490.4	511.4
70°	286.6	319.2	392.6	449.6	470.6
72.5°	240.0	277.2	350.6	410.0	432.2
75°	193.4	237.6	309.9	368.1	389.1
77.5°	150.3	195.7	267.9	315.7	326.2
80°	110.7	157.3	220.2	253.9	266.8
82.5°	71.1	117.7	167.7	192.2	202.7
85°	39.6	78.0	109.5	123.5	128.1
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)