

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: P313910

Luminaire Tested: **24FCZ2-40HE-UNV-L83050-CP250-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: P313910
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-L83050-CP250-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB 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: 3266.0 lumens
Efficiency: N/A
Efficacy: 107.8 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

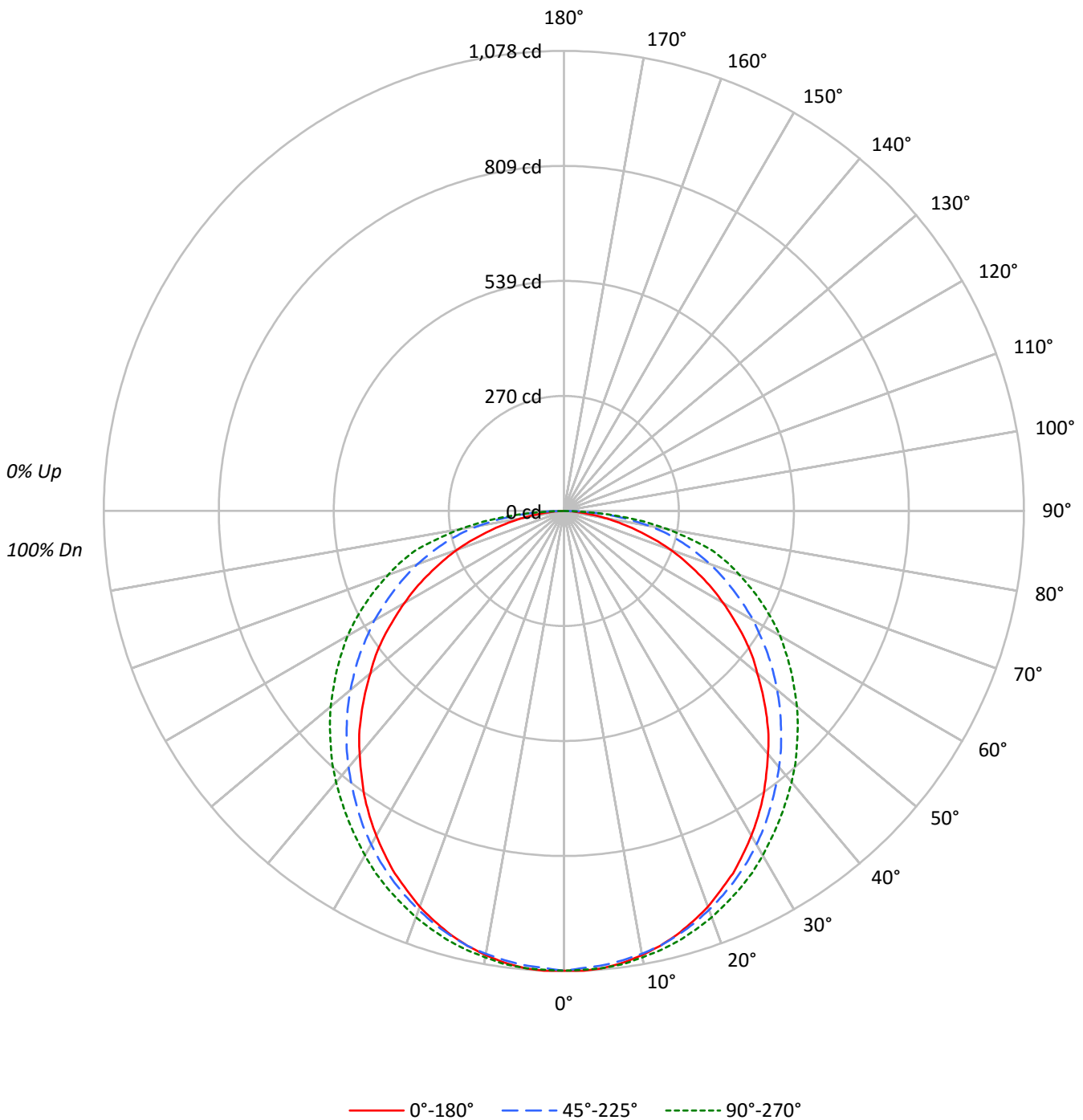
Input Watts (W): 30.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1449	1449	1449
5°	1452	1443	1452
10°	1443	1439	1451
15°	1431	1434	1452
20°	1414	1424	1451
25°	1391	1414	1449
30°	1365	1402	1448
35°	1339	1388	1449
40°	1307	1378	1458
45°	1276	1369	1470
50°	1238	1365	1492
55°	1207	1368	1523
60°	1161	1379	1574
65°	1107	1394	1632
70°	1049	1437	1722
75°	935	1498	1881
80°	797	1587	1922
85°	568	1573	1840



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.9	3.1
10°-20°	291.5	8.9
20°-30°	440.2	13.5
30°-40°	530.6	16.2
40°-50°	557.0	17.1
50°-60°	521.1	16.0
60°-70°	430.4	13.2
70°-80°	293.3	9.0
80°-90°	100.0	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°	833.6	25.5
0°-40°	1364.2	41.8
0°-60°	2442.4	74.8
0°-90°	3266.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3266.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1077	1077	1077	1077	1077	
5°	1075	1074	1068	1075	1075	102
15°	1027	1028	1029	1040	1042	290
25°	937	942	952	971	976	431
35°	815	824	845	873	882	509
45°	671	685	720	758	773	517
55°	515	535	583	631	649	459
65°	348	377	438	493	512	345
75°	180	221	288	342	362	192
85°	37	73	102	115	119	46
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1077.1	1077.1	1077.1	1077.1	1077.1
2.5°	1078.2	1077.1	1071.7	1077.1	1076.0
5°	1074.9	1073.8	1068.4	1074.9	1074.9
7.5°	1067.3	1067.3	1061.9	1069.5	1070.6
10°	1056.5	1056.5	1053.3	1061.9	1061.9
12.5°	1043.5	1043.5	1043.5	1052.2	1053.3
15°	1027.3	1028.3	1029.4	1040.3	1042.4
17.5°	1007.7	1009.9	1013.2	1026.2	1028.3
20°	987.2	989.3	994.7	1009.9	1013.2
22.5°	961.2	966.6	974.2	991.5	994.7
25°	937.3	941.6	952.5	970.9	976.3
27.5°	908.1	914.6	928.6	948.1	955.7
30°	878.8	885.3	902.6	925.4	931.9
32.5°	847.4	857.1	875.5	899.4	907.0
35°	814.9	823.5	845.2	873.4	882.1
37.5°	779.1	791.0	814.9	845.2	856.0
40°	744.4	757.4	784.5	817.0	830.0
42.5°	709.8	722.8	753.1	789.9	802.9
45°	670.7	684.8	719.5	758.5	772.6
47.5°	631.7	649.1	687.0	728.2	743.3
50°	591.6	611.2	652.3	695.7	713.0
52.5°	555.9	574.3	617.7	664.2	680.5
55°	514.7	535.3	583.0	630.7	649.1
57.5°	472.4	495.2	546.1	598.1	616.6
60°	431.3	456.2	512.5	564.6	585.1
62.5°	391.2	416.1	474.6	528.8	549.4
65°	347.8	377.1	437.8	493.0	512.5
67.5°	306.7	338.1	402.0	456.2	475.7
70°	266.6	296.9	365.2	418.3	437.8
72.5°	223.2	257.9	326.2	381.4	402.0
75°	179.9	221.1	288.2	342.4	361.9
77.5°	139.8	182.0	249.2	293.7	303.4
80°	102.9	146.3	204.8	236.2	248.1
82.5°	66.1	109.4	156.0	178.8	188.5
85°	36.8	72.6	101.9	114.9	119.2
87.5°	15.2	31.4	41.2	46.6	46.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)