

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: P311388

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-S-CP250-W2A-U-5700K**

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: P311388
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: 24FCZ2-40HE-UNV-L82765-S-CP250-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (336) 5700K 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: 3785.9 lumens
Efficiency: N/A
Efficacy: 121.0 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

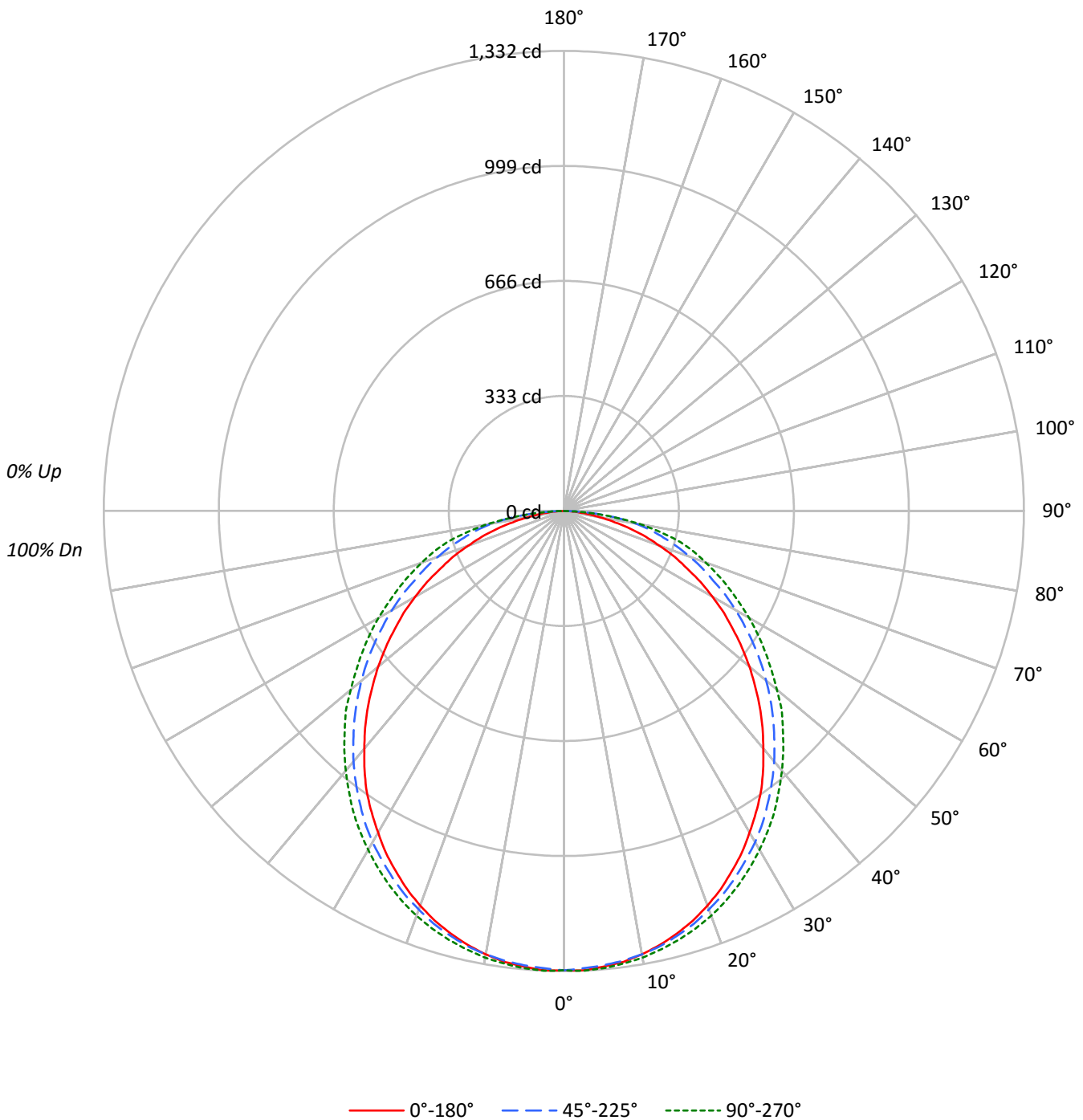
Input Watts (W): 31.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1790	1790	1790
5°	1788	1783	1795
10°	1781	1781	1794
15°	1764	1772	1791
20°	1741	1758	1786
25°	1709	1741	1775
30°	1670	1721	1760
35°	1634	1693	1746
40°	1578	1664	1726
45°	1526	1631	1707
50°	1468	1601	1686
55°	1402	1571	1670
60°	1337	1547	1667
65°	1252	1520	1677
70°	1159	1528	1722
75°	1038	1556	1819
80°	838	1650	1780
85°	631	1448	1411



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.9	3.3
10°-20°	359.8	9.5
20°-30°	540.8	14.3
30°-40°	644.2	17.0
40°-50°	659.3	17.4
50°-60°	593.6	15.7
60°-70°	466.1	12.3
70°-80°	302.5	8.0
80°-90°	93.6	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°	1026.5	27.1
0°-40°	1670.8	44.1
0°-60°	2923.7	77.2
0°-90°	3785.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3785.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1330	1330	1330	1330	1330	
5°	1324	1326	1320	1328	1329	126
15°	1266	1270	1272	1283	1286	357
25°	1151	1160	1172	1192	1195	530
35°	994	1007	1031	1056	1063	620
45°	802	821	857	890	897	618
55°	598	624	670	705	712	536
65°	393	423	477	517	527	391
75°	200	238	299	340	350	211
85°	41	76	94	91	91	49
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1330.0	1330.0	1330.0	1330.0	1330.0
2.5°	1331.2	1331.2	1325.2	1331.2	1332.5
5°	1324.0	1326.4	1320.4	1327.6	1328.8
7.5°	1316.8	1316.8	1313.2	1320.4	1321.6
10°	1303.6	1304.8	1303.6	1312.0	1313.2
12.5°	1286.8	1289.2	1290.4	1298.8	1300.0
15°	1266.3	1269.9	1272.3	1283.1	1285.6
17.5°	1243.5	1247.1	1253.1	1265.1	1267.5
20°	1215.8	1220.6	1227.8	1243.5	1247.1
22.5°	1185.7	1190.5	1202.6	1217.0	1223.0
25°	1150.9	1160.5	1172.5	1191.8	1195.4
27.5°	1116.0	1124.4	1140.0	1160.5	1165.3
30°	1075.1	1088.3	1107.6	1128.0	1132.8
32.5°	1035.4	1048.6	1071.5	1093.1	1099.2
35°	994.5	1006.6	1030.6	1055.9	1063.1
37.5°	947.6	963.3	989.7	1015.0	1022.2
40°	898.3	917.6	947.6	974.1	982.5
42.5°	851.4	871.9	901.9	930.8	940.4
45°	802.1	821.4	857.4	889.9	897.1
47.5°	751.6	773.3	811.7	844.2	856.2
50°	701.1	723.9	764.8	798.5	805.7
52.5°	650.6	674.6	717.9	754.0	757.6
55°	597.7	624.1	669.8	704.7	711.9
57.5°	549.6	572.4	621.7	657.8	666.2
60°	496.7	521.9	574.8	608.5	619.3
62.5°	446.2	472.6	527.9	561.6	571.2
65°	393.2	423.3	477.4	517.1	526.7
67.5°	347.5	376.4	434.1	472.6	482.2
70°	294.6	327.1	388.4	428.1	437.7
72.5°	248.9	282.6	343.9	382.4	396.8
75°	199.6	238.1	299.4	340.3	349.9
77.5°	151.5	196.0	258.6	289.8	289.8
80°	108.2	155.1	212.9	227.3	229.7
82.5°	71.0	116.6	157.5	156.3	156.3
85°	40.9	75.8	93.8	91.4	91.4
87.5°	15.6	31.3	33.7	33.7	32.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)