

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: P314311

Luminaire Tested: **24FCZ2-40-UNV-L83050-S-CP250-W2A-U-3500K**

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: P314311
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: 24FCZ2-40-UNV-L83050-S-CP250-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (168) 3500K 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: 3609.0 lumens
Efficiency: N/A
Efficacy: 110.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

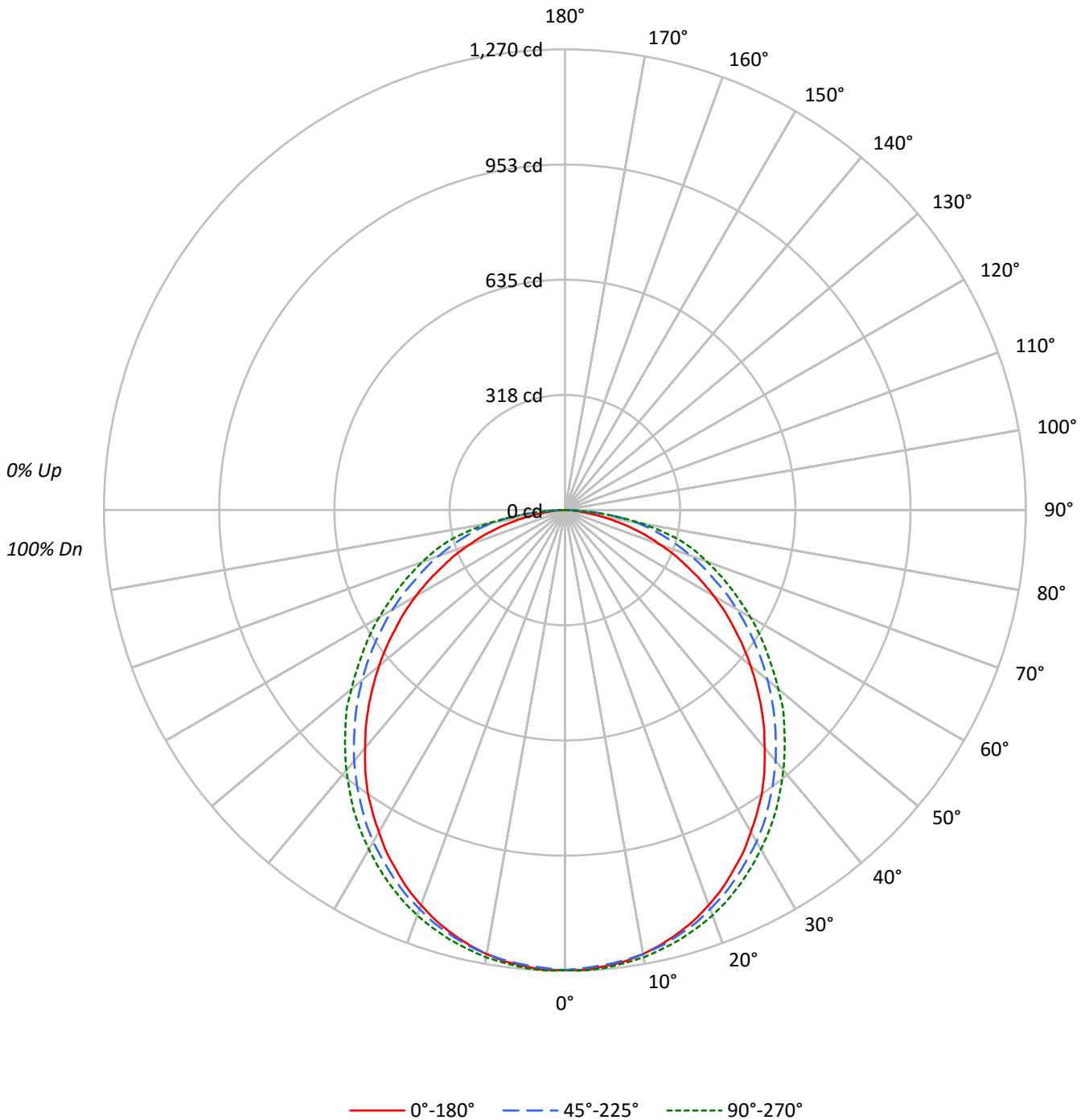
Input Watts (W): 32.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1706	1706	1706
5°	1705	1700	1711
10°	1698	1698	1710
15°	1681	1689	1707
20°	1660	1676	1702
25°	1629	1659	1692
30°	1592	1640	1678
35°	1557	1614	1665
40°	1504	1587	1645
45°	1455	1555	1627
50°	1399	1526	1608
55°	1336	1498	1592
60°	1274	1475	1589
65°	1194	1449	1599
70°	1105	1457	1642
75°	989	1484	1734
80°	800	1572	1697
85°	602	1380	1345



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.0	3.3
10°-20°	343.0	9.5
20°-30°	515.6	14.3
30°-40°	614.1	17.0
40°-50°	628.5	17.4
50°-60°	565.9	15.7
60°-70°	444.4	12.3
70°-80°	288.4	8.0
80°-90°	89.2	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°	978.5	27.1
0°-40°	1592.7	44.1
0°-60°	2787.0	77.2
0°-90°	3609.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3609.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1268	1268	1268	1268	1268	
5°	1262	1264	1259	1266	1267	120
15°	1207	1210	1213	1223	1226	340
25°	1097	1106	1118	1136	1140	505
35°	948	960	982	1006	1013	591
45°	765	783	817	848	855	589
55°	570	595	638	672	679	511
65°	375	404	455	493	502	373
75°	190	227	285	324	334	201
85°	39	72	89	87	87	47
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1267.9	1267.9	1267.9	1267.9	1267.9
2.5°	1269.0	1269.0	1263.3	1269.0	1270.2
5°	1262.1	1264.4	1258.7	1265.6	1266.7
7.5°	1255.3	1255.3	1251.8	1258.7	1259.8
10°	1242.6	1243.8	1242.6	1250.7	1251.8
12.5°	1226.6	1228.9	1230.0	1238.1	1239.2
15°	1207.1	1210.5	1212.8	1223.2	1225.5
17.5°	1185.3	1188.8	1194.5	1206.0	1208.3
20°	1159.0	1163.5	1170.4	1185.3	1188.8
22.5°	1130.3	1134.9	1146.4	1160.1	1165.8
25°	1097.1	1106.2	1117.7	1136.0	1139.5
27.5°	1063.8	1071.8	1086.7	1106.2	1110.8
30°	1024.8	1037.4	1055.8	1075.3	1079.9
32.5°	987.0	999.6	1021.4	1042.0	1047.8
35°	948.0	959.5	982.4	1006.5	1013.4
37.5°	903.3	918.2	943.4	967.5	974.4
40°	856.3	874.7	903.3	928.5	936.6
42.5°	811.6	831.1	859.8	887.3	896.4
45°	764.6	783.0	817.3	848.3	855.2
47.5°	716.5	737.1	773.8	804.7	816.2
50°	668.3	690.1	729.1	761.2	768.1
52.5°	620.2	643.1	684.4	718.8	722.2
55°	569.7	595.0	638.5	671.8	678.6
57.5°	523.9	545.7	592.7	627.1	635.1
60°	473.4	497.5	548.0	580.1	590.4
62.5°	425.3	450.5	503.2	535.3	544.5
65°	374.9	403.5	455.1	492.9	502.1
67.5°	331.3	358.8	413.8	450.5	459.7
70°	280.9	311.8	370.3	408.1	417.3
72.5°	237.3	269.4	327.9	364.5	378.3
75°	190.3	227.0	285.4	324.4	333.6
77.5°	144.4	186.9	246.5	276.3	276.3
80°	103.2	147.9	202.9	216.7	219.0
82.5°	67.6	111.2	150.2	149.0	149.0
85°	39.0	72.2	89.4	87.1	87.1
87.5°	14.9	29.8	32.1	32.1	31.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)