

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: P311427

Luminaire Tested: **24FCZ2-40-UNV-L82765-S-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: P311427
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-L82765-S-CP250-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (168) 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: 3408.0 lumens
Efficiency: N/A
Efficacy: 104.9 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

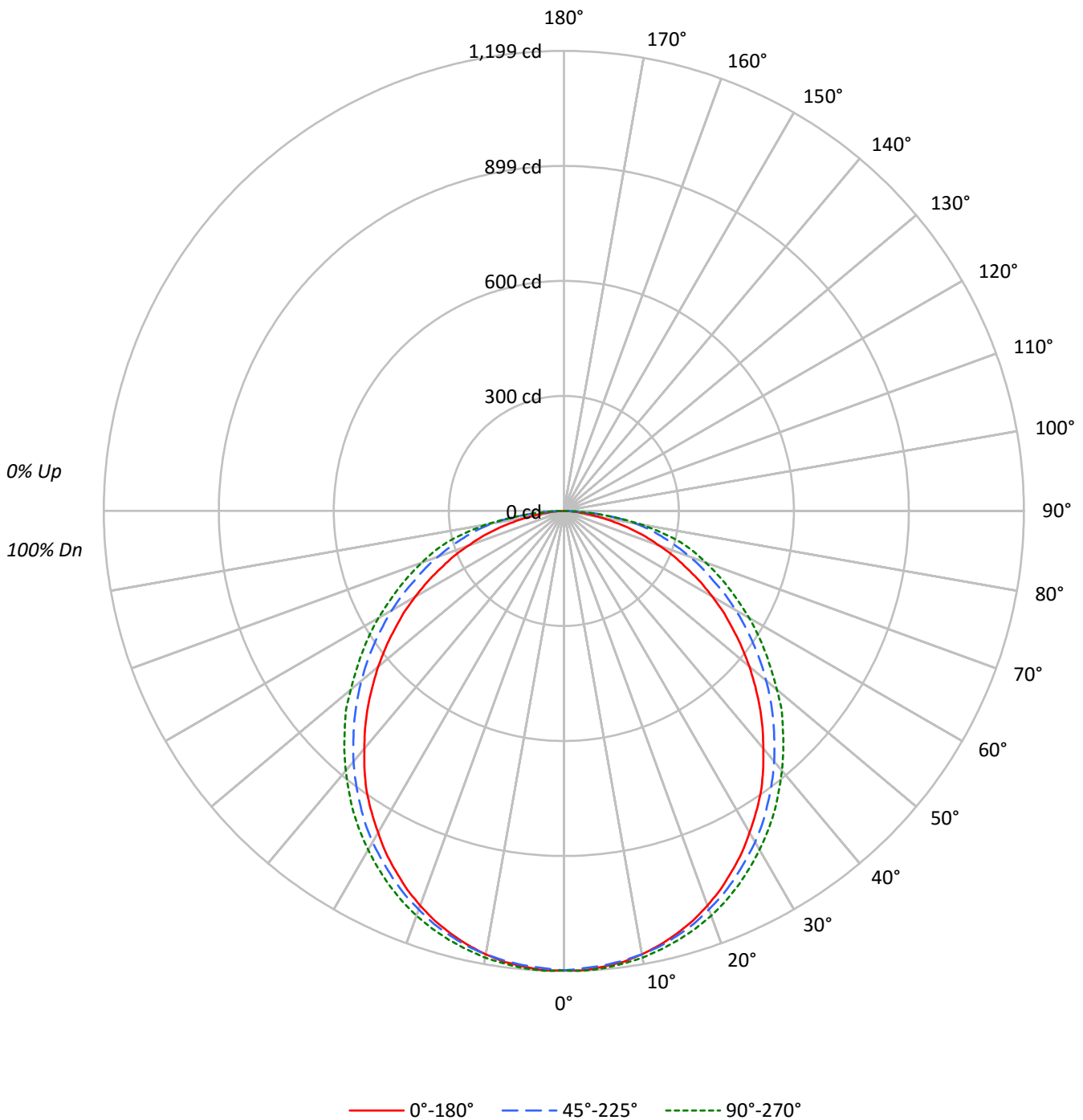
Input Watts (W): 32.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	108	103	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83				83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69				69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58				58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49				49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42				42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37				37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33				33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29				29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26				26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24				24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1611	1611	1611
5°	1610	1605	1616
10°	1603	1603	1615
15°	1588	1595	1612
20°	1567	1582	1607
25°	1538	1567	1597
30°	1504	1549	1584
35°	1470	1524	1572
40°	1420	1498	1553
45°	1374	1469	1537
50°	1321	1441	1518
55°	1262	1415	1503
60°	1203	1392	1500
65°	1127	1368	1509
70°	1043	1375	1550
75°	934	1401	1638
80°	755	1485	1602
85°	568	1303	1271



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.3	3.3
10°-20°	323.9	9.5
20°-30°	486.8	14.3
30°-40°	579.9	17.0
40°-50°	593.5	17.4
50°-60°	534.3	15.7
60°-70°	419.6	12.3
70°-80°	272.3	8.0
80°-90°	84.2	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°	924.0	27.1
0°-40°	1504.0	44.1
0°-60°	2631.8	77.2
0°-90°	3408.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3408.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1197	1197	1197	1197	1197	
5°	1192	1194	1189	1195	1196	113
15°	1140	1143	1145	1155	1157	321
25°	1036	1045	1055	1073	1076	477
35°	895	906	928	950	957	558
45°	722	739	772	801	808	557
55°	538	562	603	634	641	482
65°	354	381	430	466	474	352
75°	180	214	270	306	315	190
85°	37	68	84	82	82	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1197.3	1197.3	1197.3	1197.3	1197.3
2.5°	1198.3	1198.3	1192.9	1198.3	1199.4
5°	1191.8	1194.0	1188.6	1195.1	1196.2
7.5°	1185.3	1185.3	1182.1	1188.6	1189.7
10°	1173.4	1174.5	1173.4	1181.0	1182.1
12.5°	1158.3	1160.4	1161.5	1169.1	1170.2
15°	1139.9	1143.1	1145.3	1155.0	1157.2
17.5°	1119.3	1122.6	1128.0	1138.8	1141.0
20°	1094.4	1098.7	1105.2	1119.3	1122.6
22.5°	1067.4	1071.7	1082.5	1095.5	1100.9
25°	1036.0	1044.6	1055.4	1072.8	1076.0
27.5°	1004.6	1012.1	1026.2	1044.6	1048.9
30°	967.8	979.7	997.0	1015.4	1019.7
32.5°	932.0	943.9	964.5	984.0	989.4
35°	895.2	906.1	927.7	950.4	956.9
37.5°	853.0	867.1	890.9	913.6	920.1
40°	808.6	826.0	853.0	876.8	884.4
42.5°	766.4	784.8	811.9	837.9	846.5
45°	722.0	739.4	771.8	801.1	807.6
47.5°	676.6	696.1	730.7	759.9	770.7
50°	631.1	651.7	688.5	718.8	725.3
52.5°	585.6	607.3	646.3	678.7	682.0
55°	538.0	561.8	603.0	634.3	640.8
57.5°	494.7	515.3	559.7	592.1	599.7
60°	447.1	469.8	517.4	547.7	557.5
62.5°	401.6	425.4	475.2	505.5	514.2
65°	354.0	381.0	429.8	465.5	474.1
67.5°	312.8	338.8	390.8	425.4	434.1
70°	265.2	294.4	349.6	385.4	394.0
72.5°	224.1	254.4	309.6	344.2	357.2
75°	179.7	214.3	269.5	306.3	315.0
77.5°	136.4	176.4	232.7	260.9	260.9
80°	97.4	139.6	191.6	204.6	206.8
82.5°	63.9	105.0	141.8	140.7	140.7
85°	36.8	68.2	84.4	82.3	82.3
87.5°	14.1	28.1	30.3	30.3	29.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)