

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: P313186

Luminaire Tested: **24FCZ2-40-UNV-L83050-HRP-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: P313186
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
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-HRP-CP250-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. 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: 2668.0 lumens
Efficiency: N/A
Efficacy: 81.6 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

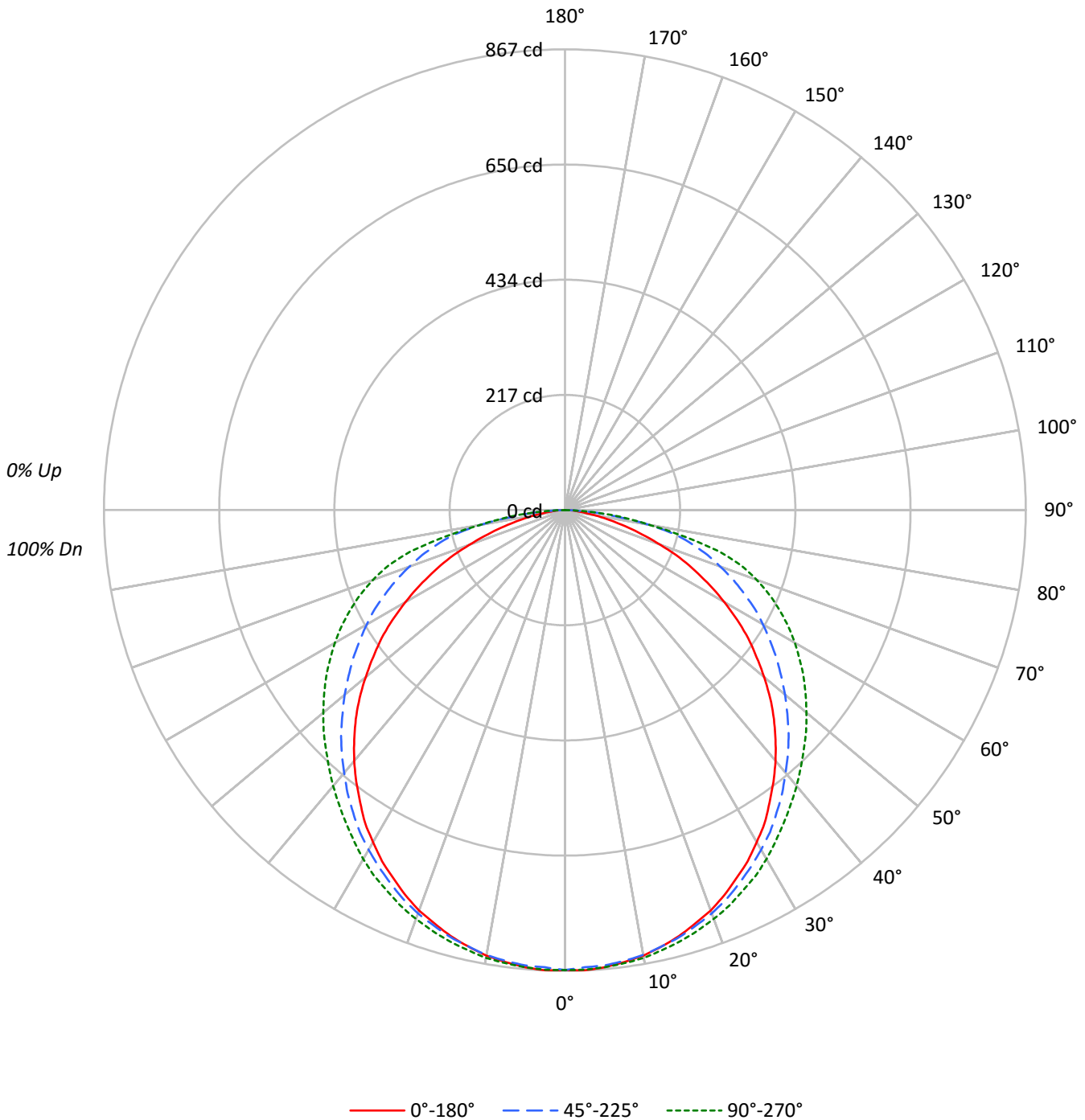
Input Watts (W): 32.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	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	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1165	1165	1165
5°	1166	1162	1166
10°	1163	1161	1169
15°	1156	1159	1170
20°	1148	1156	1172
25°	1134	1151	1174
30°	1121	1147	1178
35°	1103	1141	1180
40°	1083	1134	1191
45°	1058	1133	1209
50°	1024	1132	1241
55°	988	1140	1286
60°	932	1157	1344
65°	861	1184	1419
70°	751	1226	1511
75°	610	1289	1562
80°	450	1264	1264
85°	344	931	1051



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	82.0	3.1
10°-20°	235.5	8.8
20°-30°	358.5	13.4
30°-40°	435.3	16.3
40°-50°	459.9	17.2
50°-60°	434.0	16.3
60°-70°	360.8	13.5
70°-80°	237.4	8.9
80°-90°	64.7	2.4
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°	676.0	25.3
0°-40°	1111.3	41.7
0°-60°	2005.1	75.2
0°-90°	2668.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2668.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	866	866	866	866	866	
5°	863	863	860	863	863	82
15°	830	831	832	840	840	234
25°	764	768	775	789	791	352
35°	671	679	695	713	718	420
45°	556	567	595	624	636	428
55°	421	439	486	532	548	375
65°	270	302	372	427	446	267
75°	117	171	248	294	300	126
85°	22	49	60	67	68	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	865.6	865.6	865.6	865.6	865.6
2.5°	866.8	865.6	861.2	865.6	865.6
5°	863.4	863.4	860.0	863.4	863.4
7.5°	857.8	857.8	855.6	860.0	860.0
10°	851.1	851.1	850.0	855.6	855.6
12.5°	841.1	842.2	841.1	847.8	847.8
15°	829.9	831.0	832.1	839.9	839.9
17.5°	815.4	817.6	819.8	828.8	829.9
20°	802.0	803.1	807.6	817.6	818.7
22.5°	784.1	787.4	793.0	803.1	806.4
25°	764.0	768.5	775.2	788.6	790.8
27.5°	745.0	748.4	757.3	771.8	776.3
30°	721.5	727.1	738.3	752.8	758.4
32.5°	699.2	704.8	718.2	733.8	738.3
35°	671.3	679.1	694.7	712.6	718.2
37.5°	644.5	652.3	671.3	691.4	698.1
40°	616.6	625.5	645.6	669.1	678.0
42.5°	586.4	598.7	621.0	646.7	656.8
45°	556.2	567.4	595.3	624.4	635.5
47.5°	523.8	537.3	567.4	602.0	615.4
50°	489.2	506.0	540.6	578.6	593.1
52.5°	454.6	473.6	512.7	555.1	570.8
55°	421.1	439.0	485.9	531.7	548.4
57.5°	384.2	406.6	457.9	507.1	523.8
60°	346.3	370.8	430.0	481.4	499.3
62.5°	308.3	336.2	403.2	454.6	473.6
65°	270.3	301.6	371.9	426.7	445.7
67.5°	233.4	268.1	342.9	397.6	416.6
70°	191.0	234.6	311.6	365.2	384.2
72.5°	151.9	202.2	281.5	331.7	348.5
75°	117.3	170.9	248.0	293.8	300.5
77.5°	86.0	139.6	213.3	229.0	230.1
80°	58.1	111.7	163.1	160.8	163.1
82.5°	38.0	83.8	102.8	115.0	116.2
85°	22.3	49.1	60.3	67.0	68.1
87.5°	11.2	16.8	21.2	22.3	24.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)