

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: P313185

Luminaire Tested: **24FCZ2-40-UNV-L83050-HRP-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: P313185
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-3000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. 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: 2521.0 lumens
Efficiency: N/A
Efficacy: 77.3 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

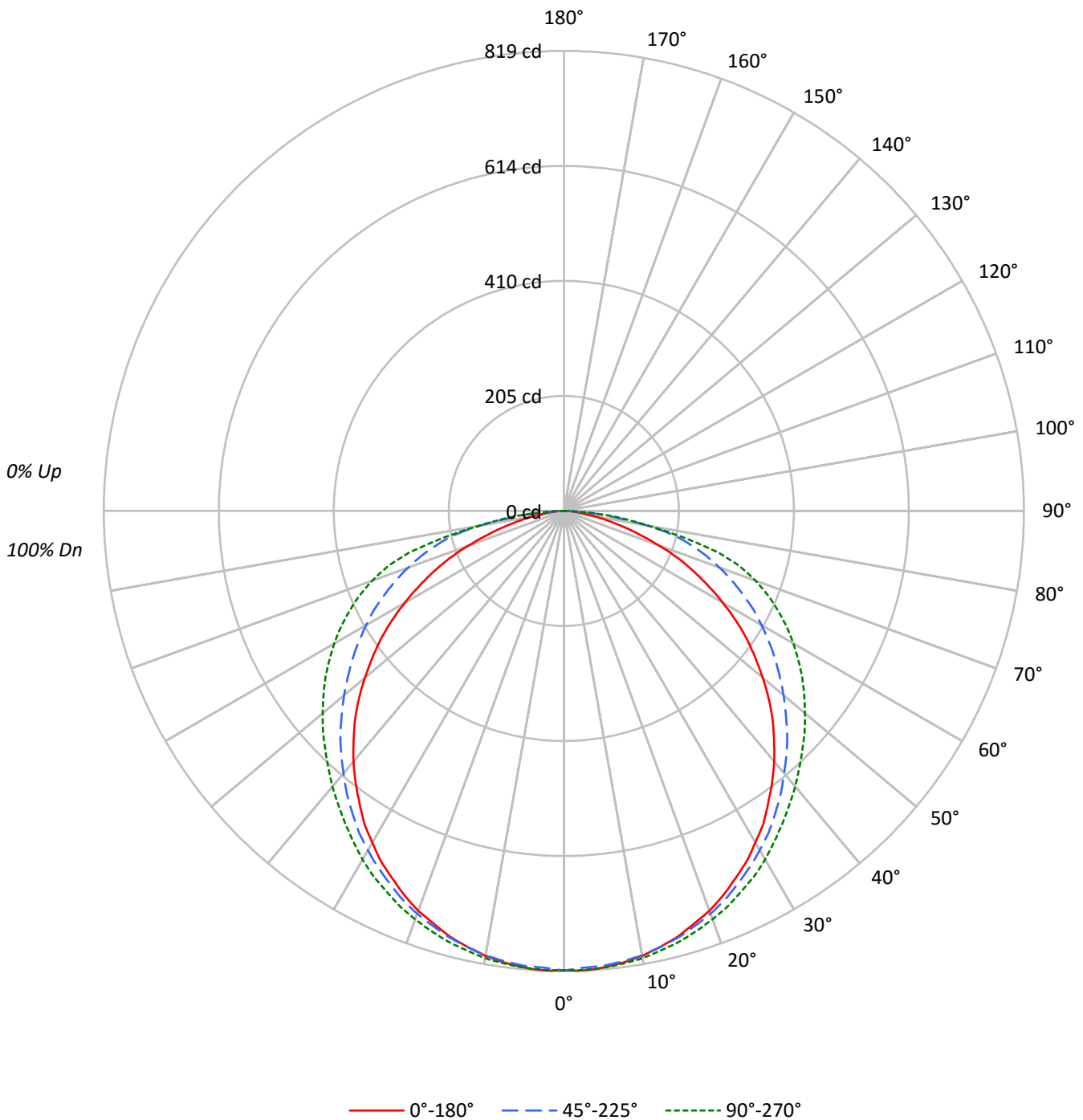
Input Watts (W): 32.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1100	1100	1100
5°	1102	1098	1102
10°	1099	1097	1104
15°	1092	1095	1106
20°	1085	1093	1108
25°	1072	1087	1109
30°	1059	1084	1113
35°	1042	1078	1115
40°	1023	1071	1125
45°	1000	1070	1143
50°	968	1069	1173
55°	933	1077	1216
60°	880	1093	1270
65°	813	1119	1341
70°	710	1159	1428
75°	576	1218	1476
80°	425	1194	1194
85°	326	880	994



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.5	3.1
10°-20°	222.5	8.8
20°-30°	338.7	13.4
30°-40°	411.3	16.3
40°-50°	434.5	17.2
50°-60°	410.0	16.3
60°-70°	340.9	13.5
70°-80°	224.3	8.9
80°-90°	61.1	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°	638.7	25.3
0°-40°	1050.0	41.7
0°-60°	1894.6	75.2
0°-90°	2521.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2521.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	818	818	818	818	818	
5°	816	816	813	816	816	77
15°	784	785	786	794	794	221
25°	722	726	732	745	747	333
35°	634	642	656	673	679	397
45°	526	536	562	590	600	405
55°	398	415	459	502	518	354
65°	255	285	352	403	421	252
75°	111	162	234	278	284	119
85°	21	46	57	63	64	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	817.9	817.9	817.9	817.9	817.9
2.5°	819.0	817.9	813.7	817.9	817.9
5°	815.8	815.8	812.7	815.8	815.8
7.5°	810.6	810.6	808.4	812.7	812.7
10°	804.2	804.2	803.2	808.4	808.4
12.5°	794.7	795.8	794.7	801.1	801.1
15°	784.2	785.2	786.3	793.7	793.7
17.5°	770.4	772.6	774.7	783.1	784.2
20°	757.8	758.8	763.1	772.6	773.6
22.5°	740.9	744.1	749.3	758.8	762.0
25°	721.9	726.1	732.5	745.1	747.2
27.5°	704.0	707.1	715.6	729.3	733.5
30°	681.8	687.1	697.6	711.3	716.6
32.5°	660.7	666.0	678.6	693.4	697.6
35°	634.3	641.7	656.5	673.3	678.6
37.5°	609.0	616.4	634.3	653.3	659.6
40°	582.6	591.0	610.0	632.2	640.6
42.5°	554.1	565.7	586.8	611.1	620.6
45°	525.6	536.1	562.5	590.0	600.5
47.5°	495.0	507.7	536.1	568.9	581.5
50°	462.3	478.1	510.8	546.7	560.4
52.5°	429.6	447.5	484.4	524.5	539.3
55°	397.9	414.8	459.1	502.4	518.2
57.5°	363.1	384.2	432.7	479.2	495.0
60°	327.2	350.4	406.3	454.9	471.8
62.5°	291.3	317.7	381.0	429.6	447.5
65°	255.4	285.0	351.5	403.2	421.1
67.5°	220.6	253.3	324.0	375.7	393.7
70°	180.5	221.6	294.5	345.1	363.1
72.5°	143.5	191.0	266.0	313.5	329.3
75°	110.8	161.5	234.3	277.6	283.9
77.5°	81.3	131.9	201.6	216.4	217.4
80°	54.9	105.5	154.1	152.0	154.1
82.5°	35.9	79.2	97.1	108.7	109.8
85°	21.1	46.4	57.0	63.3	64.4
87.5°	10.6	15.8	20.1	21.1	23.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)