

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: P313137

Luminaire Tested: **24FCZ2-35-UNV-L83050-HRP-CP250-W2A-U-4000K**

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: P313137
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: 24FCZ2-35-UNV-L83050-HRP-CP250-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (168) 4000K 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: 2462.0 lumens
Efficiency: N/A
Efficacy: 86.1 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

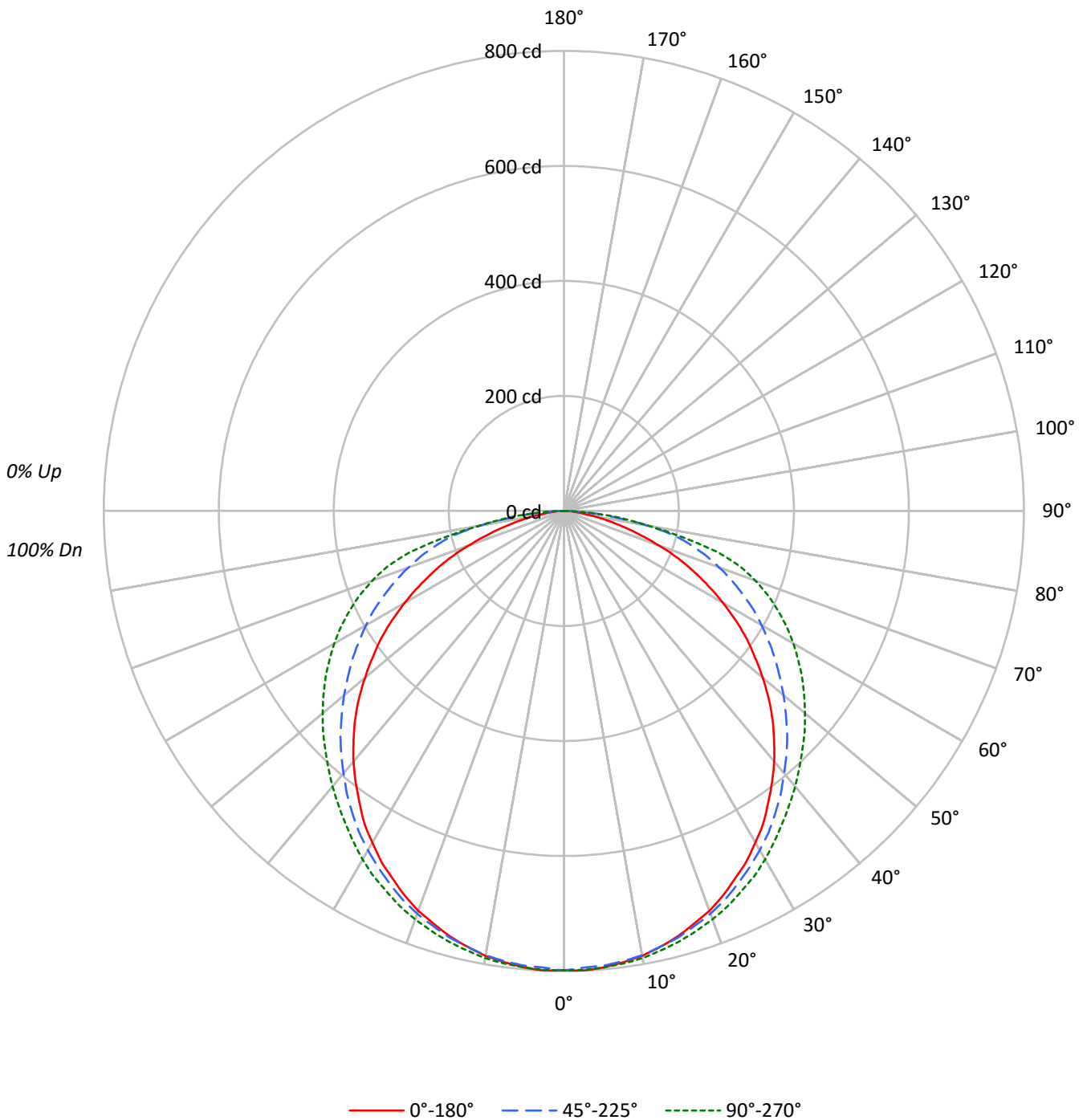
Input Watts (W): 28.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1075	1075	1075
5°	1076	1072	1076
10°	1073	1072	1079
15°	1067	1070	1080
20°	1060	1067	1082
25°	1047	1062	1083
30°	1034	1058	1087
35°	1018	1053	1089
40°	999	1046	1099
45°	977	1045	1116
50°	945	1044	1146
55°	912	1052	1187
60°	860	1068	1240
65°	794	1093	1309
70°	694	1131	1395
75°	562	1189	1442
80°	415	1166	1166
85°	318	860	971



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	75.7	3.1
10°-20°	217.3	8.8
20°-30°	330.8	13.4
30°-40°	401.7	16.3
40°-50°	424.4	17.2
50°-60°	400.4	16.3
60°-70°	332.9	13.5
70°-80°	219.1	8.9
80°-90°	59.7	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°	623.8	25.3
0°-40°	1025.5	41.7
0°-60°	1850.3	75.2
0°-90°	2462.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2462.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	799	799	799	799	799	
5°	797	797	794	797	797	76
15°	766	767	768	775	775	216
25°	705	709	715	728	730	325
35°	620	627	641	658	663	388
45°	513	524	549	576	586	395
55°	389	405	448	491	506	346
65°	249	278	343	394	411	247
75°	108	158	229	271	277	117
85°	21	45	56	62	63	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	798.8	798.8	798.8	798.8	798.8
2.5°	799.8	798.8	794.7	798.8	798.8
5°	796.7	796.7	793.6	796.7	796.7
7.5°	791.6	791.6	789.5	793.6	793.6
10°	785.4	785.4	784.4	789.5	789.5
12.5°	776.1	777.2	776.1	782.3	782.3
15°	765.8	766.8	767.9	775.1	775.1
17.5°	752.4	754.5	756.5	764.8	765.8
20°	740.0	741.1	745.2	754.5	755.5
22.5°	723.6	726.6	731.8	741.1	744.2
25°	705.0	709.1	715.3	727.7	729.7
27.5°	687.5	690.6	698.8	712.2	716.3
30°	665.8	671.0	681.3	694.7	699.8
32.5°	645.2	650.4	662.7	677.2	681.3
35°	619.5	626.7	641.1	657.6	662.7
37.5°	594.7	601.9	619.5	638.0	644.2
40°	569.0	577.2	595.7	617.4	625.6
42.5°	541.1	552.5	573.1	596.8	606.1
45°	513.3	523.6	549.4	576.2	586.5
47.5°	483.4	495.8	523.6	555.6	567.9
50°	451.4	466.9	498.9	533.9	547.3
52.5°	419.5	437.0	473.1	512.3	526.7
55°	388.6	405.1	448.4	490.6	506.1
57.5°	354.6	375.2	422.6	467.9	483.4
60°	319.5	342.2	396.8	444.2	460.7
62.5°	284.5	310.2	372.1	419.5	437.0
65°	249.4	278.3	343.2	393.7	411.3
67.5°	215.4	247.4	316.4	366.9	384.5
70°	176.3	216.4	287.6	337.0	354.6
72.5°	140.2	186.6	259.7	306.1	321.6
75°	108.2	157.7	228.8	271.1	277.3
77.5°	79.4	128.8	196.9	211.3	212.3
80°	53.6	103.1	150.5	148.4	150.5
82.5°	35.0	77.3	94.8	106.2	107.2
85°	20.6	45.4	55.7	61.8	62.9
87.5°	10.3	15.5	19.6	20.6	22.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)