

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: P309491

Luminaire Tested: **24FCZ2-45-UNV-L82765-HRP-CP250-W2A-U-2700K**

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: P309491
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: 24FCZ2-45-UNV-L82765-HRP-CP250-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (168) 2700K 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: 2677.0 lumens
Efficiency: N/A
Efficacy: 71.2 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

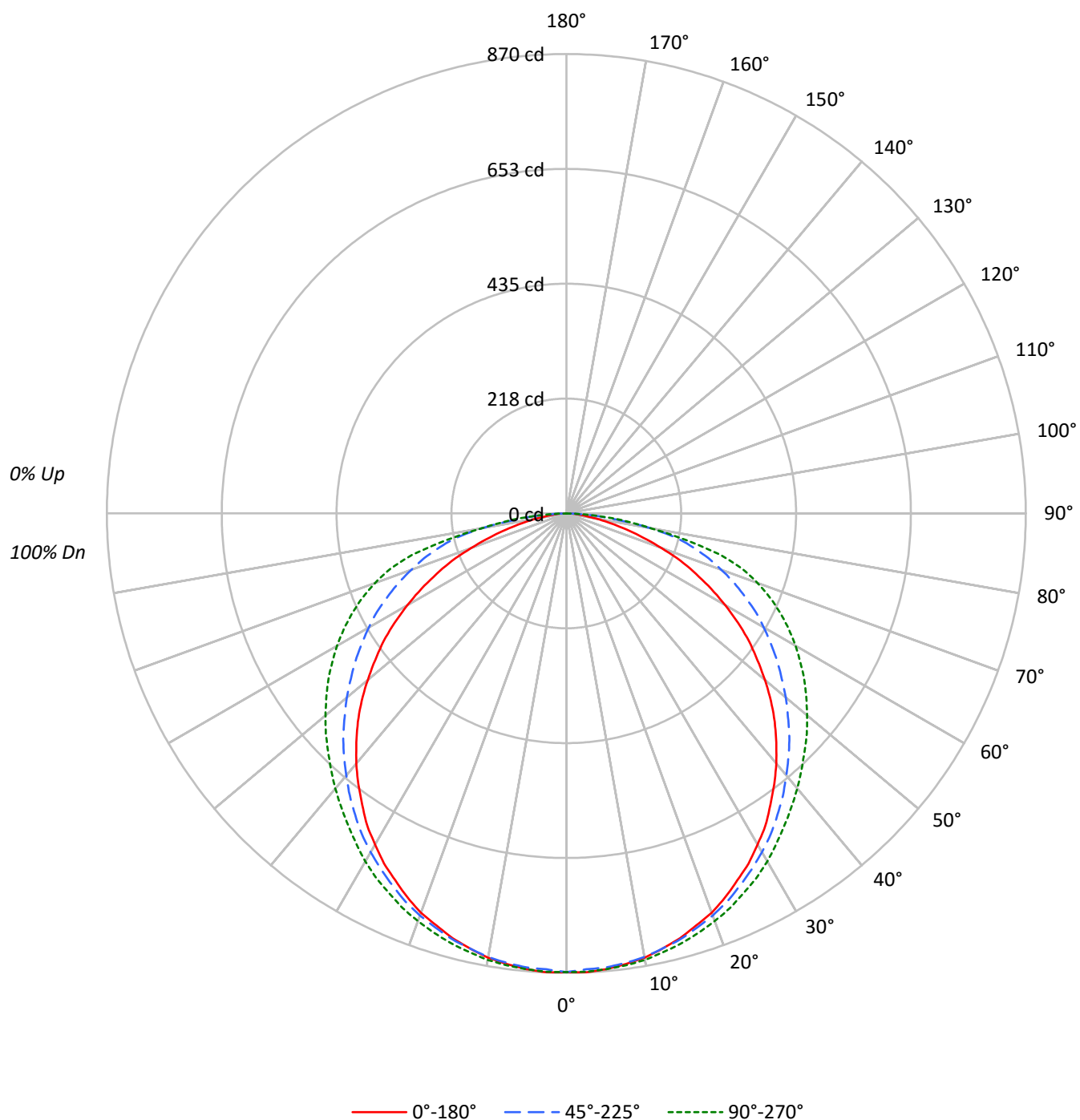
Input Watts (W): 37.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	101	96	93	96	93	90		92	90	87		82
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		67
3	89	78	69	62	86	76	68	62	73	66	61		70	64	59		56
4	81	68	59	52	79	67	59	52	65	57	51		62	56	50		48
5	74	61	52	45	72	60	51	45	58	50	44		56	49	44		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	63	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	36	30	57	44	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	24		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1169	1169	1169
5°	1170	1166	1170
10°	1167	1165	1173
15°	1160	1163	1174
20°	1152	1160	1176
25°	1138	1155	1178
30°	1125	1151	1182
35°	1106	1145	1184
40°	1087	1138	1195
45°	1062	1137	1213
50°	1028	1135	1246
55°	991	1144	1291
60°	935	1161	1348
65°	863	1188	1424
70°	754	1230	1517
75°	612	1293	1567
80°	452	1268	1268
85°	346	934	1056



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	82.3	3.1
10°-20°	236.3	8.8
20°-30°	359.7	13.4
30°-40°	436.8	16.3
40°-50°	461.4	17.2
50°-60°	435.4	16.3
60°-70°	362.0	13.5
70°-80°	238.2	8.9
80°-90°	64.9	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°	678.3	25.3
0°-40°	1115.0	41.7
0°-60°	2011.9	75.2
0°-90°	2677.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2677.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	869	869	869	869	869	
5°	866	866	863	866	866	82
15°	833	834	835	843	843	235
25°	767	771	778	791	794	354
35°	674	681	697	715	721	422
45°	558	569	597	626	638	430
55°	422	440	488	534	550	376
65°	271	303	373	428	447	268
75°	118	172	249	295	302	127
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°	868.6	868.6	868.6	868.6	868.6
2.5°	869.7	868.6	864.1	868.6	868.6
5°	866.3	866.3	863.0	866.3	866.3
7.5°	860.7	860.7	858.5	863.0	863.0
10°	854.0	854.0	852.9	858.5	858.5
12.5°	843.9	845.0	843.9	850.6	850.6
15°	832.7	833.8	834.9	842.8	842.8
17.5°	818.1	820.4	822.6	831.6	832.7
20°	804.7	805.8	810.3	820.4	821.5
22.5°	786.7	790.1	795.7	805.8	809.2
25°	766.6	771.1	777.8	791.2	793.5
27.5°	747.5	750.9	759.8	774.4	778.9
30°	724.0	729.6	740.8	755.4	761.0
32.5°	701.6	707.2	720.6	736.3	740.8
35°	673.6	681.4	697.1	715.0	720.6
37.5°	646.7	654.5	673.6	693.7	700.4
40°	618.6	627.6	647.8	671.3	680.3
42.5°	588.4	600.7	623.1	648.9	659.0
45°	558.1	569.3	597.3	626.5	637.7
47.5°	525.6	539.1	569.3	604.1	617.5
50°	490.9	507.7	542.4	580.5	595.1
52.5°	456.1	475.2	514.4	557.0	572.7
55°	422.5	440.4	487.5	533.5	550.3
57.5°	385.5	407.9	459.5	508.8	525.6
60°	347.4	372.1	431.5	483.0	501.0
62.5°	309.3	337.3	404.6	456.1	475.2
65°	271.2	302.6	373.2	428.1	447.2
67.5°	234.2	269.0	344.1	399.0	418.0
70°	191.6	235.4	312.7	366.5	385.5
72.5°	152.4	202.8	282.4	332.9	349.7
75°	117.7	171.5	248.8	294.7	301.5
77.5°	86.3	140.1	214.1	229.7	230.9
80°	58.3	112.1	163.6	161.4	163.6
82.5°	38.1	84.1	103.1	115.4	116.6
85°	22.4	49.3	60.5	67.2	68.4
87.5°	11.2	16.8	21.3	22.4	24.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)