

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: P309404

Luminaire Tested: **24FCZ2-40-UNV-L82765-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: P309404
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-L82765-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: 2601.0 lumens
Efficiency: N/A
Efficacy: 78.6 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

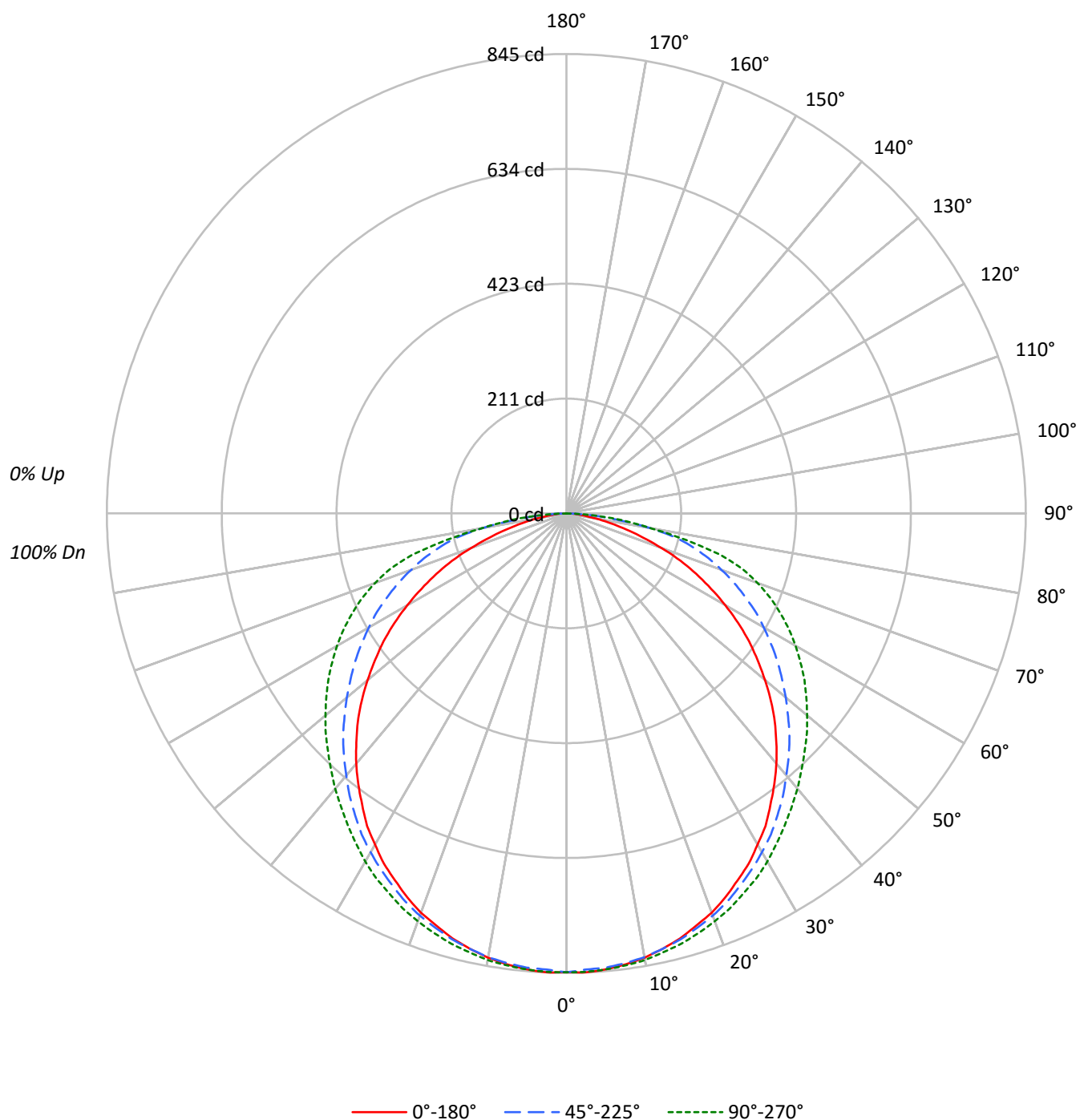
Input Watts (W): 33.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1135	1135	1135
5°	1137	1133	1137
10°	1134	1132	1140
15°	1127	1130	1141
20°	1119	1127	1143
25°	1106	1122	1144
30°	1093	1118	1149
35°	1075	1112	1150
40°	1056	1105	1161
45°	1032	1104	1179
50°	998	1103	1210
55°	963	1111	1254
60°	908	1128	1310
65°	839	1154	1383
70°	733	1195	1474
75°	594	1256	1523
80°	439	1232	1232
85°	337	908	1025



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.9	3.1
10°-20°	229.6	8.8
20°-30°	349.5	13.4
30°-40°	424.4	16.3
40°-50°	448.3	17.2
50°-60°	423.1	16.3
60°-70°	351.8	13.5
70°-80°	231.4	8.9
80°-90°	63.1	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°	659.0	25.3
0°-40°	1083.4	41.7
0°-60°	1954.8	75.2
0°-90°	2601.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2601.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	844	844	844	844	844	
5°	842	842	838	842	842	80
15°	809	810	811	819	819	228
25°	745	749	756	769	771	344
35°	654	662	677	695	700	410
45°	542	553	580	609	620	418
55°	410	428	474	518	535	366
65°	264	294	363	416	434	260
75°	114	167	242	286	293	123
85°	22	48	59	65	66	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	843.9	843.9	843.9	843.9	843.9
2.5°	845.0	843.9	839.5	843.9	843.9
5°	841.7	841.7	838.5	841.7	841.7
7.5°	836.3	836.3	834.1	838.5	838.5
10°	829.7	829.7	828.7	834.1	834.1
12.5°	819.9	821.0	819.9	826.5	826.5
15°	809.1	810.1	811.2	818.9	818.9
17.5°	794.9	797.1	799.3	808.0	809.1
20°	781.8	782.9	787.3	797.1	798.2
22.5°	764.4	767.7	773.1	782.9	786.2
25°	744.8	749.2	755.7	768.8	770.9
27.5°	726.3	729.6	738.3	752.4	756.8
30°	703.4	708.9	719.8	733.9	739.4
32.5°	681.7	687.1	700.2	715.4	719.8
35°	654.4	662.1	677.3	694.7	700.2
37.5°	628.3	635.9	654.4	674.0	680.6
40°	601.1	609.8	629.4	652.3	661.0
42.5°	571.7	583.6	605.4	630.5	640.3
45°	542.3	553.2	580.4	608.7	619.6
47.5°	510.7	523.8	553.2	586.9	600.0
50°	476.9	493.3	527.0	564.0	578.2
52.5°	443.2	461.7	499.8	541.2	556.4
55°	410.5	427.9	473.7	518.3	534.6
57.5°	374.6	396.4	446.4	494.4	510.7
60°	337.6	361.5	419.2	469.3	486.7
62.5°	300.5	327.8	393.1	443.2	461.7
65°	263.5	294.0	362.6	416.0	434.5
67.5°	227.6	261.3	334.3	387.6	406.2
70°	186.2	228.7	303.8	356.1	374.6
72.5°	148.1	197.1	274.4	323.4	339.7
75°	114.3	166.6	241.7	286.4	292.9
77.5°	83.8	136.1	208.0	223.2	224.3
80°	56.6	108.9	159.0	156.8	159.0
82.5°	37.0	81.7	100.2	112.2	113.2
85°	21.8	47.9	58.8	65.3	66.4
87.5°	10.9	16.3	20.7	21.8	24.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)