

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: P313558

Luminaire Tested: **24FCZ2-40-UNV-L83050-RDP-CP187-W2A-U-4500K**

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: P313558
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
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-RDP-CP187-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (168) 4500K 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: 2469.0 lumens
Efficiency: N/A
Efficacy: 72.0 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

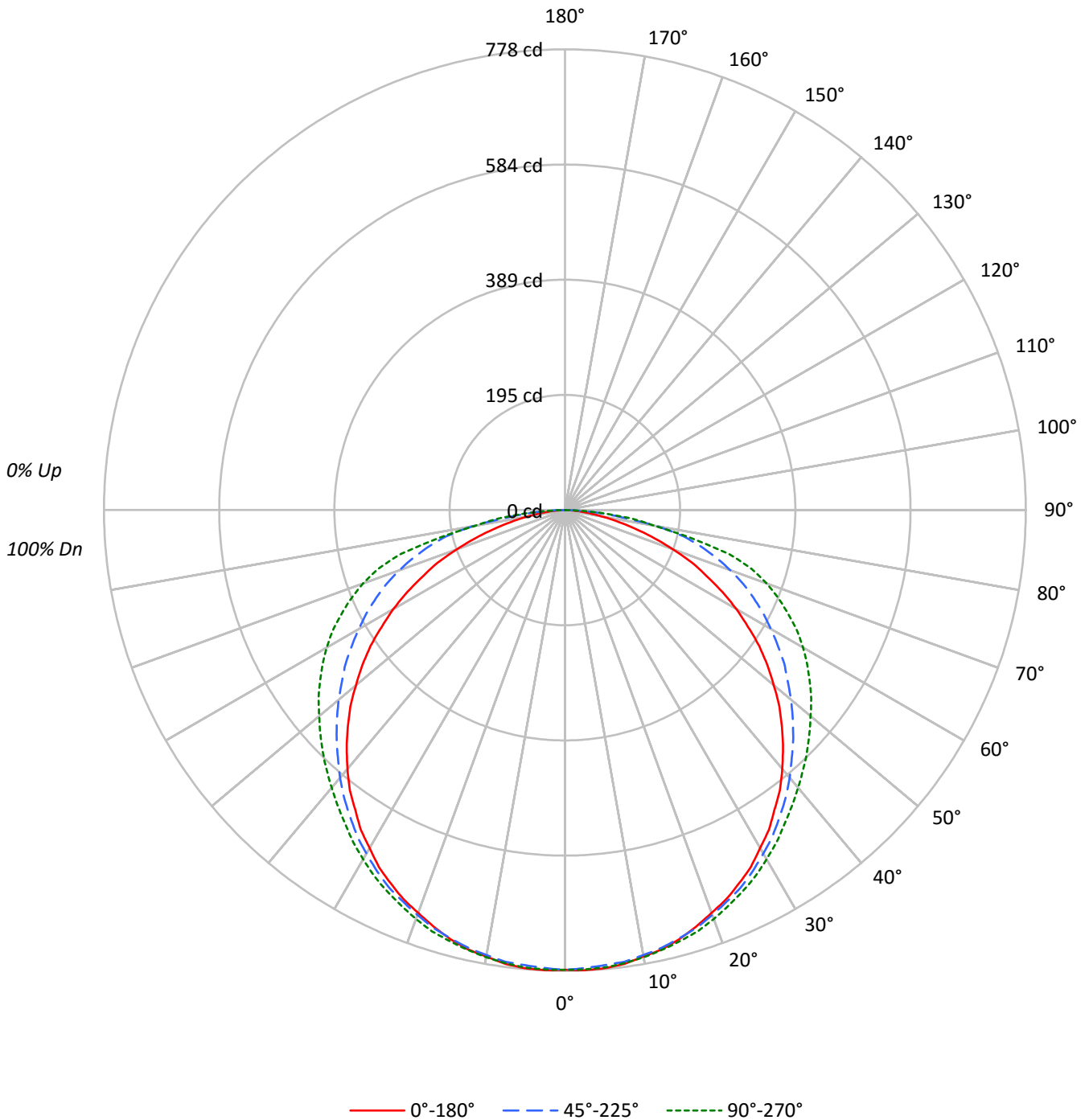
Input Watts (W): 34.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	96	92	96	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1045	1045	1045
5°	1049	1042	1047
10°	1046	1042	1047
15°	1044	1042	1049
20°	1036	1042	1052
25°	1033	1044	1054
30°	1024	1041	1058
35°	1014	1038	1062
40°	1002	1037	1075
45°	986	1037	1100
50°	964	1043	1133
55°	939	1060	1184
60°	900	1081	1249
65°	842	1119	1326
70°	766	1171	1426
75°	649	1235	1490
80°	512	1243	1205
85°	378	945	1059



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.7	3.0
10°-20°	212.0	8.6
20°-30°	324.1	13.1
30°-40°	396.3	16.0
40°-50°	422.3	17.1
50°-60°	403.8	16.4
60°-70°	342.1	13.9
70°-80°	229.9	9.3
80°-90°	64.9	2.6
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°	609.8	24.7
0°-40°	1006.0	40.7
0°-60°	1832.2	74.2
0°-90°	2469.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2469.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	776	776	776	776	776	
5°	776	775	772	775	775	74
15°	750	750	748	754	753	211
25°	696	698	703	709	710	321
35°	617	622	632	644	647	387
45°	518	527	545	568	578	400
55°	400	415	452	487	505	357
65°	264	292	352	398	416	263
75°	125	170	238	278	287	134
85°	24	50	61	66	69	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	776.4	776.4	776.4	776.4	776.4
2.5°	777.7	777.7	774.0	776.4	776.4
5°	776.4	775.2	771.5	775.2	775.2
7.5°	772.8	771.5	769.1	772.8	771.5
10°	765.4	765.4	763.0	766.6	766.6
12.5°	759.3	758.1	756.8	761.7	760.5
15°	749.5	749.5	748.3	754.4	753.2
17.5°	737.2	738.5	739.7	744.6	745.8
20°	723.8	726.2	727.4	734.8	734.8
22.5°	711.5	712.7	715.2	722.5	722.5
25°	695.6	698.1	703.0	709.1	710.3
27.5°	679.7	680.9	687.0	695.6	696.8
30°	658.9	662.5	669.9	679.7	680.9
32.5°	640.5	644.2	652.7	662.5	665.0
35°	617.2	622.1	631.9	644.2	646.6
37.5°	596.4	600.1	612.3	625.8	629.5
40°	570.7	578.0	590.3	606.2	612.3
42.5°	545.0	552.3	567.0	587.8	595.2
45°	518.0	526.6	545.0	568.2	578.0
47.5°	491.1	500.9	521.7	548.6	559.7
50°	460.5	472.7	498.4	529.1	541.3
52.5°	431.1	445.8	473.9	508.2	524.2
55°	400.5	415.2	451.9	487.4	504.6
57.5°	366.2	385.8	426.2	466.6	485.0
60°	334.3	352.7	401.7	445.8	464.1
62.5°	300.0	324.5	377.2	423.7	442.1
65°	264.5	291.5	351.5	398.0	416.4
67.5°	232.7	262.1	325.8	372.3	390.7
70°	194.7	231.5	297.6	344.1	362.5
72.5°	159.2	199.6	268.2	313.5	330.7
75°	124.9	170.2	237.6	278.0	286.6
77.5°	93.1	140.8	205.7	222.9	216.8
80°	66.1	112.7	160.4	151.9	155.5
82.5°	42.9	85.7	99.2	112.7	116.3
85°	24.5	50.2	61.2	66.1	68.6
87.5°	11.0	18.4	24.5	24.5	23.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)