

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: P309394

Luminaire Tested: **24FCZ2-40-UNV-L82765-HRP-CP187-W2A-U-3500K**

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: P309394
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-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (168) 3500K 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: 2566.0 lumens
Efficiency: N/A
Efficacy: 78.0 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

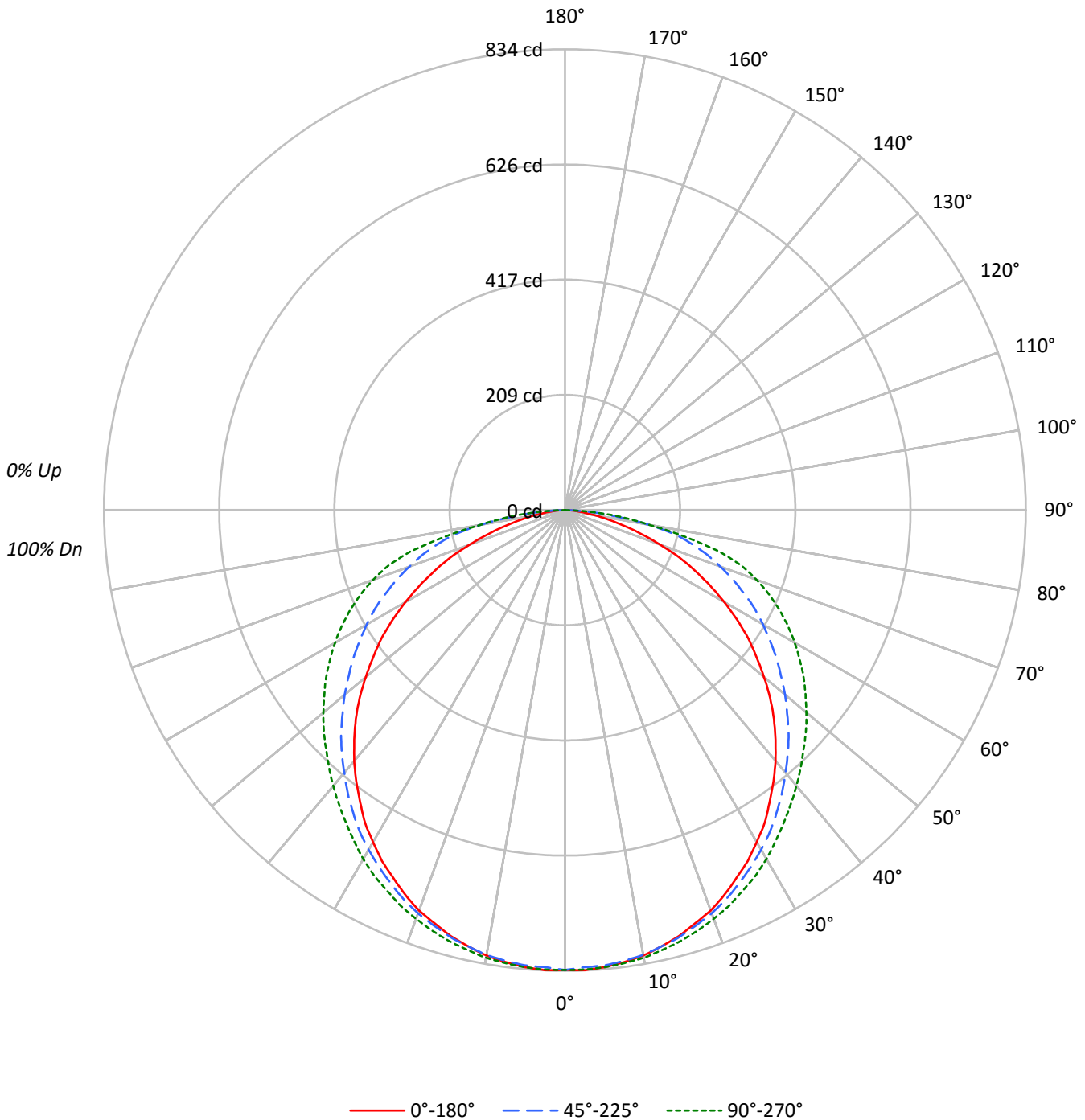
Input Watts (W): 32.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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°	1120	1120	1120
5°	1122	1117	1122
10°	1118	1117	1124
15°	1112	1115	1125
20°	1104	1112	1127
25°	1091	1107	1129
30°	1078	1103	1133
35°	1060	1098	1135
40°	1042	1091	1145
45°	1018	1090	1163
50°	985	1088	1194
55°	950	1096	1237
60°	896	1113	1292
65°	828	1139	1365
70°	723	1179	1454
75°	586	1240	1502
80°	433	1215	1215
85°	332	895	1011



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	78.9	3.1
10°-20°	226.5	8.8
20°-30°	344.8	13.4
30°-40°	418.6	16.3
40°-50°	442.3	17.2
50°-60°	417.4	16.3
60°-70°	347.0	13.5
70°-80°	228.3	8.9
80°-90°	62.2	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°	650.1	25.3
0°-40°	1068.8	41.7
0°-60°	1928.4	75.2
0°-90°	2566.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2566.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	832	832	832	832	832	
5°	830	830	827	830	830	79
15°	798	799	800	808	808	225
25°	735	739	746	758	761	339
35°	646	653	668	685	691	404
45°	535	546	573	600	611	412
55°	405	422	467	511	528	361
65°	260	290	358	410	429	257
75°	113	164	238	282	289	122
85°	22	47	58	64	66	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	832.5	832.5	832.5	832.5	832.5
2.5°	833.6	832.5	828.2	832.5	832.5
5°	830.4	830.4	827.2	830.4	830.4
7.5°	825.0	825.0	822.9	827.2	827.2
10°	818.6	818.6	817.5	822.9	822.9
12.5°	808.9	810.0	808.9	815.4	815.4
15°	798.2	799.2	800.3	807.8	807.8
17.5°	784.2	786.3	788.5	797.1	798.2
20°	771.3	772.4	776.7	786.3	787.4
22.5°	754.1	757.3	762.7	772.4	775.6
25°	734.8	739.1	745.5	758.4	760.6
27.5°	716.5	719.7	728.3	742.3	746.6
30°	694.0	699.3	710.1	724.0	729.4
32.5°	672.5	677.8	690.7	705.8	710.1
35°	645.6	653.1	668.2	685.4	690.7
37.5°	619.8	627.4	645.6	665.0	671.4
40°	593.0	601.6	620.9	643.5	652.1
42.5°	564.0	575.8	597.3	622.0	631.7
45°	535.0	545.7	572.6	600.5	611.2
47.5°	503.8	516.7	545.7	579.0	591.9
50°	470.5	486.6	519.9	556.5	570.4
52.5°	437.2	455.5	493.1	533.9	548.9
55°	405.0	422.2	467.3	511.3	527.5
57.5°	369.5	391.0	440.4	487.7	503.8
60°	333.0	356.6	413.6	463.0	480.2
62.5°	296.5	323.3	387.8	437.2	455.5
65°	260.0	290.0	357.7	410.4	428.6
67.5°	224.5	257.8	329.8	382.4	400.7
70°	183.7	225.6	299.7	351.3	369.5
72.5°	146.1	194.4	270.7	319.1	335.2
75°	112.8	164.4	238.5	282.5	289.0
77.5°	82.7	134.3	205.2	220.2	221.3
80°	55.9	107.4	156.8	154.7	156.8
82.5°	36.5	80.6	98.8	110.6	111.7
85°	21.5	47.3	58.0	64.5	65.5
87.5°	10.7	16.1	20.4	21.5	23.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)