

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: P309980

Luminaire Tested: **24FCZ2-35-UNV-L82765-RDP-CP187-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: P309980
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: 24FCZ2-35-UNV-L82765-RDP-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" 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: 2043.0 lumens
Efficiency: N/A
Efficacy: 72.2 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

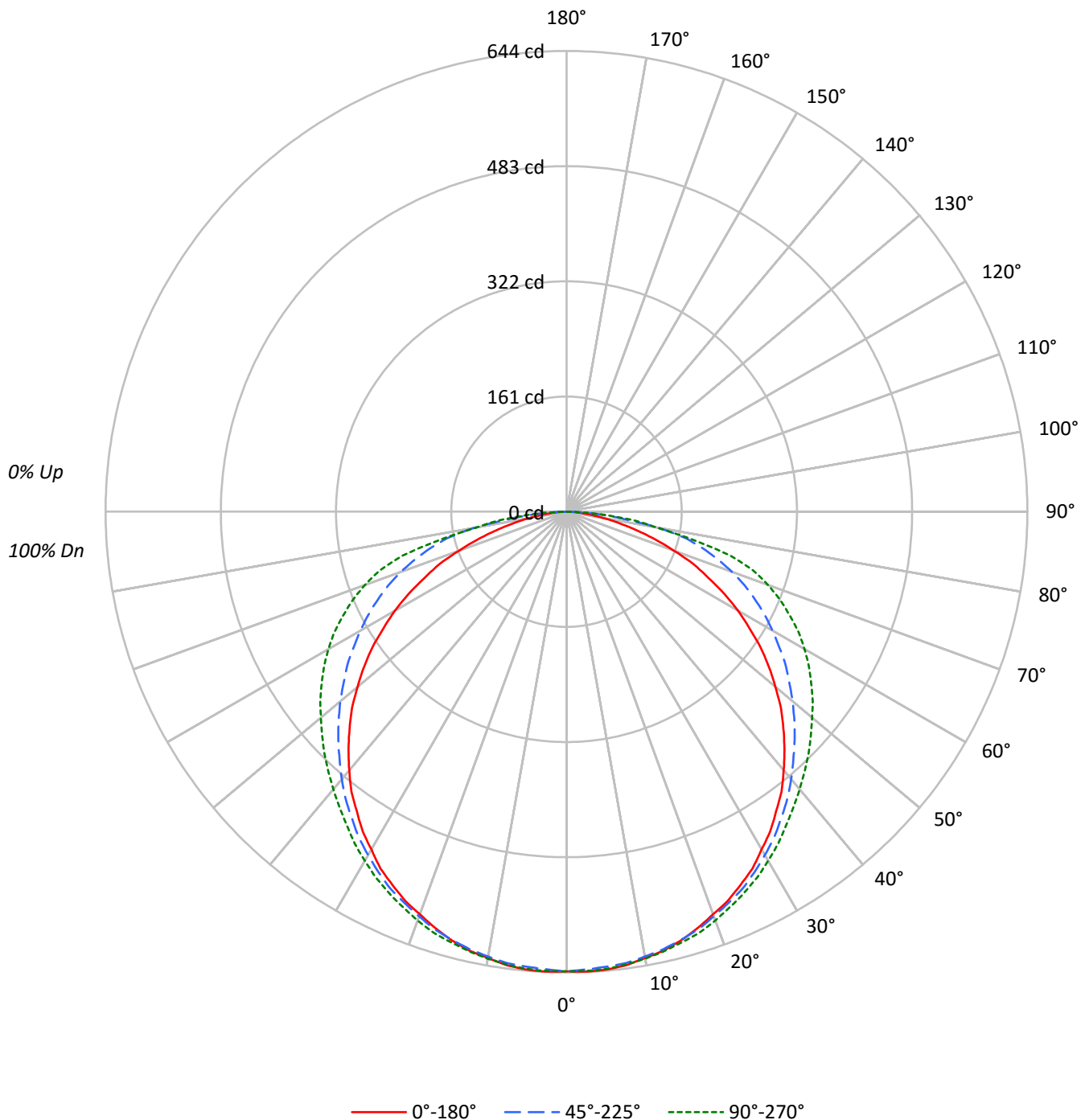
Input Watts (W): 28.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	864	864	864
5°	868	862	866
10°	865	863	867
15°	864	863	868
20°	858	862	871
25°	855	864	872
30°	847	861	875
35°	839	859	879
40°	829	858	890
45°	816	858	910
50°	798	863	938
55°	777	877	979
60°	744	894	1034
65°	697	926	1097
70°	634	969	1180
75°	538	1022	1233
80°	424	1028	997
85°	313	783	875



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	60.9	3.0
10°-20°	175.4	8.6
20°-30°	268.2	13.1
30°-40°	327.9	16.0
40°-50°	349.5	17.1
50°-60°	334.1	16.4
60°-70°	283.1	13.9
70°-80°	190.2	9.3
80°-90°	53.7	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°	504.6	24.7
0°-40°	832.4	40.7
0°-60°	1516.0	74.2
0°-90°	2043.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2043.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	642	642	642	642	642	
5°	642	642	638	642	642	61
15°	620	620	619	624	623	175
25°	576	578	582	587	588	265
35°	511	515	523	533	535	320
45°	429	436	451	470	478	331
55°	331	344	374	403	418	295
65°	219	241	291	329	344	217
75°	103	141	197	230	237	111
85°	20	42	51	55	57	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	642.5	642.5	642.5	642.5	642.5
2.5°	643.5	643.5	640.4	642.5	642.5
5°	642.5	641.5	638.4	641.5	641.5
7.5°	639.4	638.4	636.4	639.4	638.4
10°	633.3	633.3	631.3	634.4	634.4
12.5°	628.3	627.3	626.3	630.3	629.3
15°	620.2	620.2	619.2	624.2	623.2
17.5°	610.0	611.1	612.1	616.1	617.1
20°	598.9	600.9	601.9	608.0	608.0
22.5°	588.8	589.8	591.8	597.9	597.9
25°	575.6	577.6	581.7	586.7	587.7
27.5°	562.4	563.4	568.5	575.6	576.6
30°	545.2	548.2	554.3	562.4	563.4
32.5°	530.0	533.0	540.1	548.2	550.3
35°	510.7	514.8	522.9	533.0	535.0
37.5°	493.5	496.5	506.7	517.8	520.9
40°	472.2	478.3	488.4	501.6	506.7
42.5°	450.9	457.0	469.2	486.4	492.5
45°	428.6	435.7	450.9	470.2	478.3
47.5°	406.4	414.5	431.7	454.0	463.1
50°	381.0	391.2	412.4	437.8	447.9
52.5°	356.7	368.9	392.2	420.5	433.7
55°	331.4	343.5	373.9	403.3	417.5
57.5°	303.0	319.2	352.6	386.1	401.3
60°	276.6	291.8	332.4	368.9	384.1
62.5°	248.3	268.5	312.1	350.6	365.8
65°	218.9	241.2	290.8	329.3	344.5
67.5°	192.5	216.9	269.6	308.1	323.3
70°	161.1	191.5	246.2	284.8	300.0
72.5°	131.7	165.2	221.9	259.4	273.6
75°	103.4	140.9	196.6	230.0	237.1
77.5°	77.0	116.5	170.2	184.4	179.4
80°	54.7	93.2	132.7	125.7	128.7
82.5°	35.5	70.9	82.1	93.2	96.3
85°	20.3	41.5	50.7	54.7	56.7
87.5°	9.1	15.2	20.3	20.3	19.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)