

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: P309309

Luminaire Tested: **24FCZ2-35-UNV-L82765-HRP-CP187-W2A-U-5700K**

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: P309309
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: 24FCZ2-35-UNV-L82765-HRP-CP187-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (168) 5700K 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: 2406.0 lumens
Efficiency: N/A
Efficacy: 83.5 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

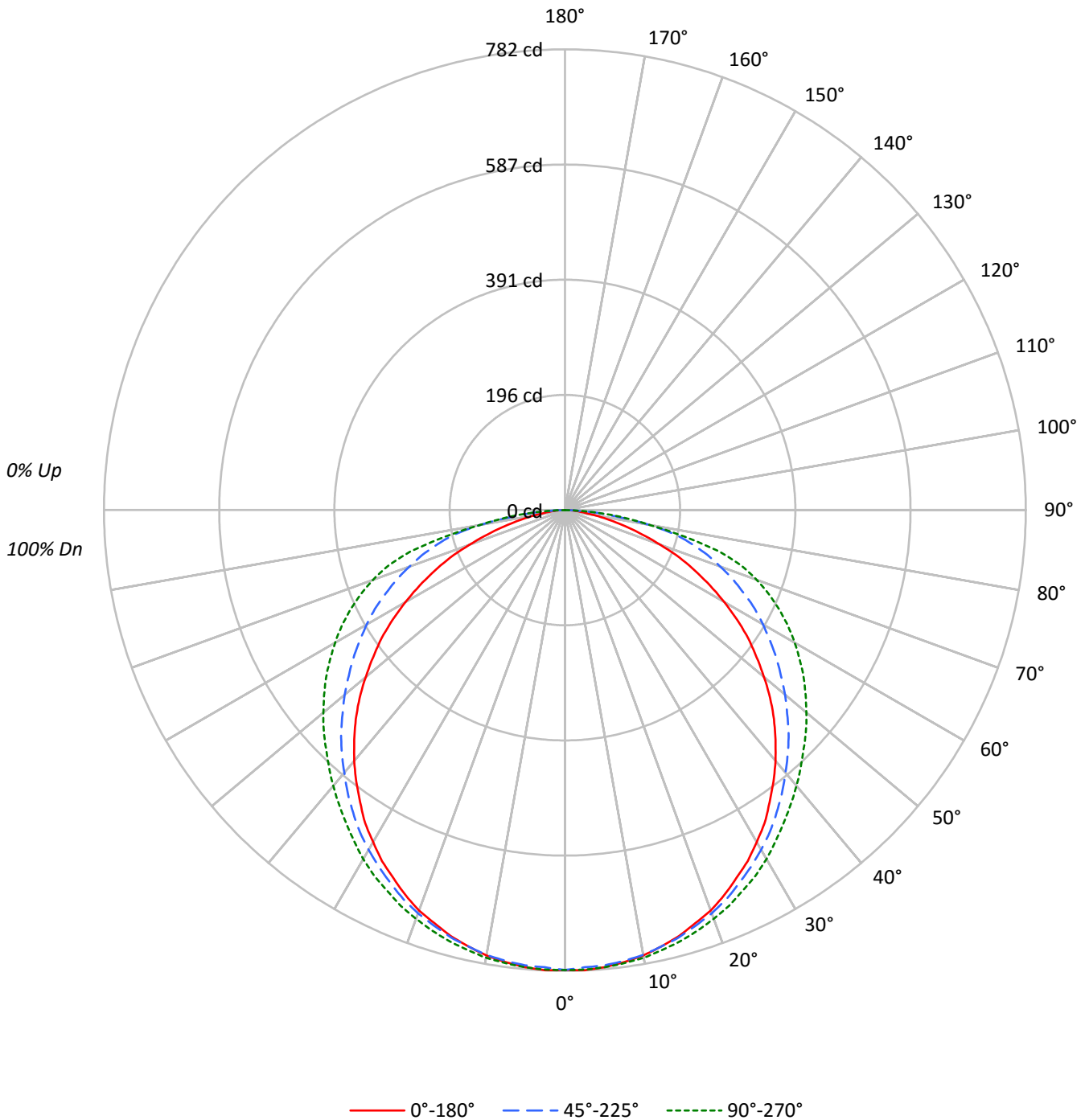
Input Watts (W): 28.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1050	1050	1050
5°	1052	1048	1052
10°	1049	1047	1054
15°	1042	1045	1055
20°	1036	1043	1057
25°	1023	1038	1059
30°	1011	1034	1063
35°	994	1029	1064
40°	977	1023	1074
45°	954	1022	1091
50°	924	1020	1120
55°	891	1028	1160
60°	840	1044	1211
65°	776	1068	1280
70°	677	1105	1363
75°	550	1162	1409
80°	406	1140	1140
85°	310	840	948



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.9	3.1
10°-20°	212.4	8.8
20°-30°	323.3	13.4
30°-40°	392.5	16.3
40°-50°	414.7	17.2
50°-60°	391.3	16.3
60°-70°	325.4	13.5
70°-80°	214.1	8.9
80°-90°	58.3	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°	609.6	25.3
0°-40°	1002.1	41.7
0°-60°	1808.2	75.2
0°-90°	2406.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2406.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	781	781	781	781	781	
5°	779	779	776	779	779	74
15°	748	749	750	758	758	211
25°	689	693	699	711	713	318
35°	605	612	626	643	648	379
45°	502	512	537	563	573	386
55°	380	396	438	480	495	338
65°	244	272	335	385	402	241
75°	106	154	224	265	271	114
85°	20	44	54	60	61	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	780.6	780.6	780.6	780.6	780.6
2.5°	781.6	780.6	776.6	780.6	780.6
5°	778.6	778.6	775.6	778.6	778.6
7.5°	773.6	773.6	771.6	775.6	775.6
10°	767.5	767.5	766.5	771.6	771.6
12.5°	758.5	759.5	758.5	764.5	764.5
15°	748.4	749.4	750.4	757.5	757.5
17.5°	735.3	737.3	739.3	747.4	748.4
20°	723.2	724.2	728.3	737.3	738.3
22.5°	707.1	710.1	715.2	724.2	727.2
25°	689.0	693.0	699.0	711.1	713.1
27.5°	671.8	674.9	682.9	696.0	700.0
30°	650.7	655.7	665.8	678.9	683.9
32.5°	630.5	635.6	647.7	661.8	665.8
35°	605.4	612.4	626.5	642.6	647.7
37.5°	581.2	588.2	605.4	623.5	629.5
40°	556.0	564.1	582.2	603.4	611.4
42.5°	528.8	539.9	560.0	583.2	592.3
45°	501.6	511.7	536.9	563.1	573.1
47.5°	472.4	484.5	511.7	542.9	555.0
50°	441.2	456.3	487.5	521.8	534.9
52.5°	410.0	427.1	462.3	500.6	514.7
55°	379.7	395.9	438.2	479.5	494.6
57.5°	346.5	366.6	413.0	457.3	472.4
60°	312.3	334.4	387.8	434.1	450.2
62.5°	278.0	303.2	363.6	410.0	427.1
65°	243.8	272.0	335.4	384.8	401.9
67.5°	210.5	241.7	309.2	358.6	375.7
70°	172.2	211.5	281.0	329.4	346.5
72.5°	137.0	182.3	253.8	299.2	314.3
75°	105.8	154.1	223.6	264.9	271.0
77.5°	77.6	125.9	192.4	206.5	207.5
80°	52.4	100.7	147.1	145.0	147.1
82.5°	34.2	75.5	92.7	103.7	104.8
85°	20.1	44.3	54.4	60.4	61.4
87.5°	10.1	15.1	19.1	20.1	22.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)