

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: P309216

Luminaire Tested: **24FCZ2-30-UNV-L82765-HRP-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: P309216
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: 24FCZ2-30-UNV-L82765-HRP-CP187-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 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: 1999.0 lumens
Efficiency: N/A
Efficacy: 84.0 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

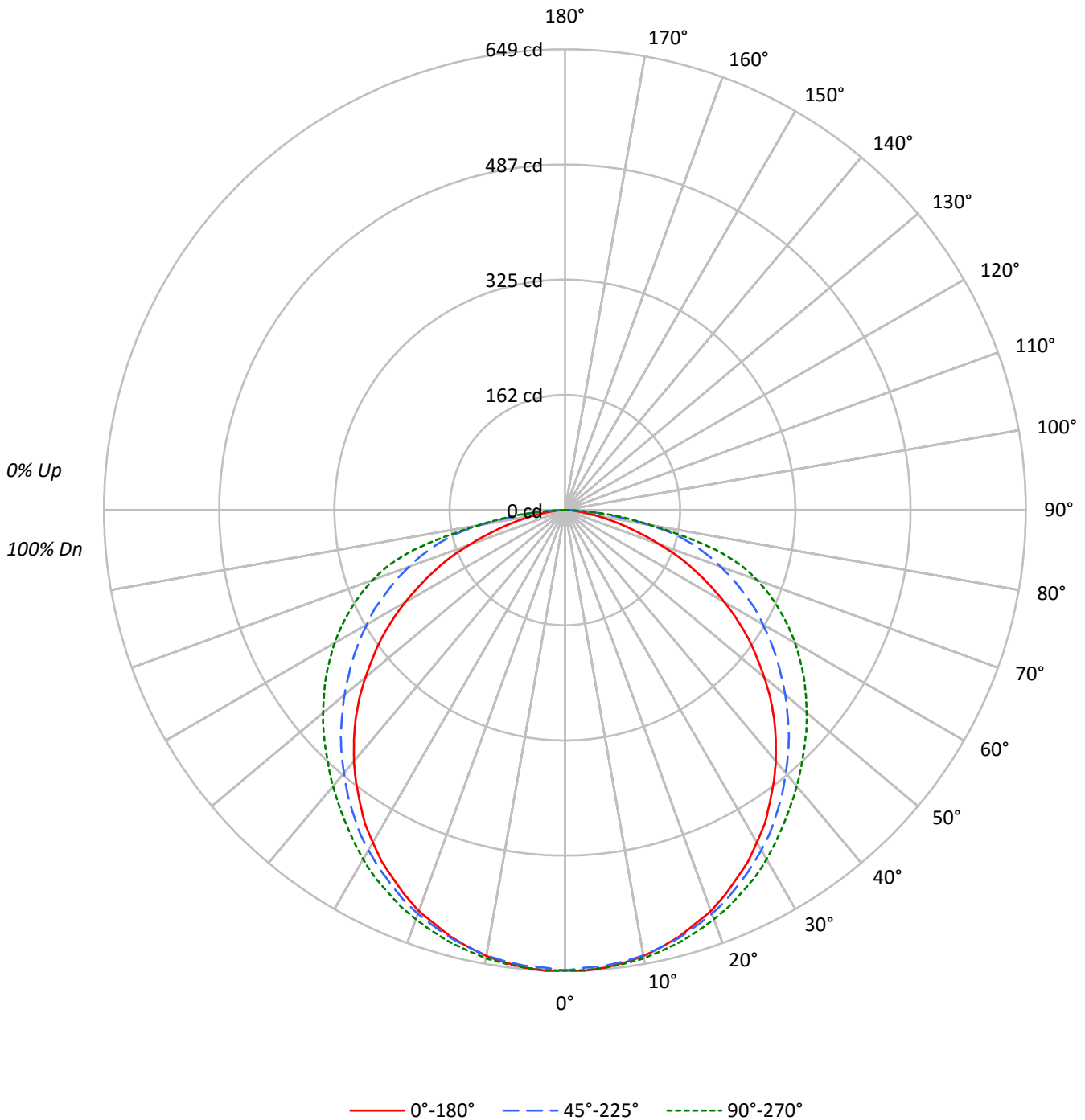
Input Watts (W): 23.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P309216

CATALOG NUMBER: 24FCZ2-30-UNV-L82765-HRP-CP187-W2A-U-4500K

Luminous Intensity Polar Plot





TEST NUMBER: P309216

CATALOG NUMBER: 24FCZ2-30-UNV-L82765-HRP-CP187-W2A-U-4500K

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°	873	873	873
5°	874	870	874
10°	871	870	876
15°	866	869	877
20°	860	866	878
25°	850	862	880
30°	840	859	883
35°	826	855	884
40°	811	850	892
45°	793	849	906
50°	767	848	930
55°	740	854	964
60°	698	867	1007
65°	645	887	1063
70°	563	919	1133
75°	457	966	1170
80°	337	947	947
85°	258	698	787



TEST NUMBER: P309216

CATALOG NUMBER: 24FCZ2-30-UNV-L82765-HRP-CP187-W2A-U-4500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.4	3.1
10°-20°	176.4	8.8
20°-30°	268.6	13.4
30°-40°	326.1	16.3
40°-50°	344.6	17.2
50°-60°	325.1	16.3
60°-70°	270.3	13.5
70°-80°	177.9	8.9
80°-90°	48.5	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°	506.5	25.3
0°-40°	832.6	41.7
0°-60°	1502.3	75.2
0°-90°	1999.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1999.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	649	649	649	649	649	
5°	647	647	644	647	647	61
15°	622	623	624	629	629	175
25°	572	576	581	591	592	264
35°	503	509	520	534	538	315
45°	417	425	446	468	476	321
55°	316	329	364	398	411	281
65°	202	226	279	320	334	200
75°	88	128	186	220	225	95
85°	17	37	45	50	51	20
90°	0	0	0	0	0	



TEST NUMBER: P309216

CATALOG NUMBER: 24FCZ2-30-UNV-L82765-HRP-CP187-W2A-U-4500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	648.6	648.6	648.6	648.6	648.6
2.5°	649.4	648.6	645.2	648.6	648.6
5°	646.9	646.9	644.4	646.9	646.9
7.5°	642.7	642.7	641.0	644.4	644.4
10°	637.7	637.7	636.9	641.0	641.0
12.5°	630.2	631.0	630.2	635.2	635.2
15°	621.8	622.6	623.5	629.3	629.3
17.5°	610.9	612.6	614.3	621.0	621.8
20°	600.9	601.7	605.1	612.6	613.4
22.5°	587.5	590.0	594.2	601.7	604.2
25°	572.4	575.8	580.8	590.8	592.5
27.5°	558.2	560.7	567.4	578.3	581.6
30°	540.6	544.8	553.2	564.1	568.2
32.5°	523.9	528.1	538.1	549.8	553.2
35°	503.0	508.8	520.5	533.9	538.1
37.5°	482.9	488.7	503.0	518.0	523.0
40°	462.0	468.6	483.7	501.3	508.0
42.5°	439.4	448.6	465.3	484.5	492.1
45°	416.8	425.1	446.1	467.8	476.2
47.5°	392.5	402.5	425.1	451.1	461.1
50°	366.6	379.1	405.0	433.5	444.4
52.5°	340.6	354.8	384.1	415.9	427.6
55°	315.5	328.9	364.0	398.4	410.9
57.5°	287.9	304.6	343.1	379.9	392.5
60°	259.4	277.8	322.2	360.7	374.1
62.5°	231.0	251.9	302.1	340.6	354.8
65°	202.5	226.0	278.7	319.7	333.9
67.5°	174.9	200.8	256.9	297.9	312.2
70°	143.1	175.7	233.5	273.7	287.9
72.5°	113.8	151.5	210.9	248.6	261.1
75°	87.9	128.0	185.8	220.1	225.1
77.5°	64.4	104.6	159.8	171.6	172.4
80°	43.5	83.7	122.2	120.5	122.2
82.5°	28.5	62.8	77.0	86.2	87.0
85°	16.7	36.8	45.2	50.2	51.0
87.5°	8.4	12.6	15.9	16.7	18.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)