

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: P309215

Luminaire Tested: **24FCZ2-30-UNV-L82765-HRP-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: P309215
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-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 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: 1965.0 lumens
Efficiency: N/A
Efficacy: 82.9 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

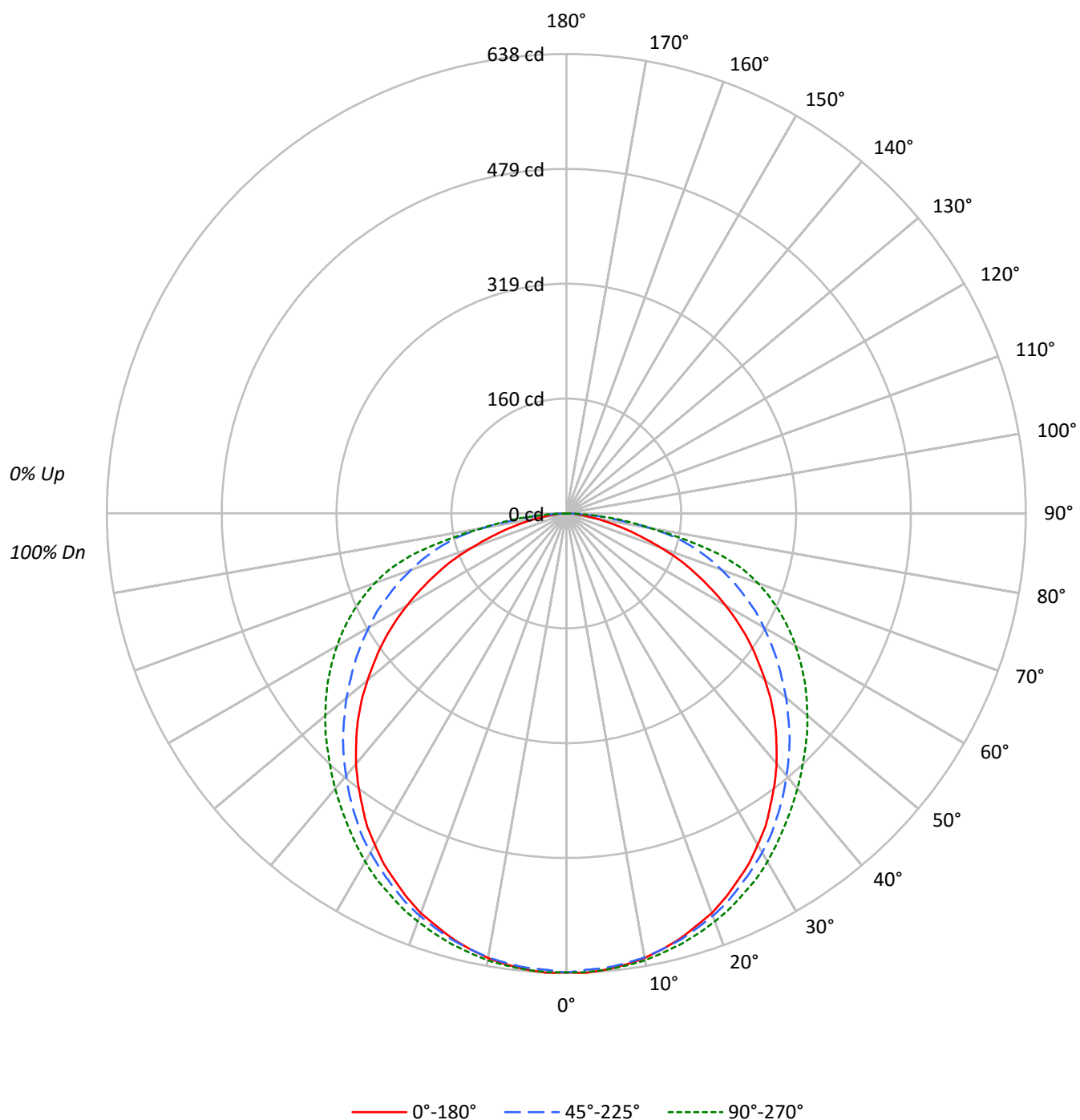
Input Watts (W): 23.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P309215

CATALOG NUMBER: 24FCZ2-30-UNV-L82765-HRP-CP187-W2A-U-4000K

Luminous Intensity Polar Plot





TEST NUMBER: P309215

CATALOG NUMBER: 24FCZ2-30-UNV-L82765-HRP-CP187-W2A-U-4000K

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	101	96	93	96	93	90		92	90	87		82
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		67
3	89	78	69	62	86	76	68	62	73	66	61		70	64	59		56
4	81	68	59	52	79	67	59	52	65	57	51		62	56	50		48
5	74	61	52	45	72	60	51	45	58	50	44		56	49	44		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	63	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	36	30	57	44	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	24		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	858	858	858
5°	859	855	859
10°	856	855	861
15°	851	854	862
20°	846	852	863
25°	835	848	865
30°	826	845	868
35°	812	840	869
40°	798	835	877
45°	780	834	891
50°	754	834	914
55°	727	839	947
60°	686	852	989
65°	634	872	1045
70°	554	903	1113
75°	449	949	1150
80°	332	931	931
85°	255	685	775



TEST NUMBER: P309215

CATALOG NUMBER: 24FCZ2-30-UNV-L82765-HRP-CP187-W2A-U-4000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	60.4	3.1
10°-20°	173.4	8.8
20°-30°	264.0	13.4
30°-40°	320.6	16.3
40°-50°	338.7	17.2
50°-60°	319.6	16.3
60°-70°	265.7	13.5
70°-80°	174.8	8.9
80°-90°	47.7	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°	497.9	25.3
0°-40°	818.5	41.7
0°-60°	1476.8	75.2
0°-90°	1965.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1965.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	638	638	638	638	638	
5°	636	636	633	636	636	60
15°	611	612	613	619	619	172
25°	563	566	571	581	582	260
35°	494	500	512	525	529	310
45°	410	418	438	460	468	315
55°	310	323	358	392	404	276
65°	199	222	274	314	328	197
75°	86	126	183	216	221	93
85°	16	36	44	49	50	20
90°	0	0	0	0	0	



TEST NUMBER: P309215

CATALOG NUMBER: 24FCZ2-30-UNV-L82765-HRP-CP187-W2A-U-4000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	637.5	637.5	637.5	637.5	637.5
2.5°	638.4	637.5	634.3	637.5	637.5
5°	635.9	635.9	633.4	635.9	635.9
7.5°	631.8	631.8	630.1	633.4	633.4
10°	626.9	626.9	626.0	630.1	630.1
12.5°	619.4	620.3	619.4	624.4	624.4
15°	611.2	612.0	612.9	618.6	618.6
17.5°	600.5	602.2	603.8	610.4	611.2
20°	590.7	591.5	594.8	602.2	603.0
22.5°	577.5	580.0	584.1	591.5	593.9
25°	562.7	566.0	570.9	580.8	582.4
27.5°	548.7	551.2	557.7	568.4	571.7
30°	531.4	535.5	543.8	554.5	558.6
32.5°	515.0	519.1	529.0	540.5	543.8
35°	494.4	500.2	511.7	524.8	529.0
37.5°	474.7	480.4	494.4	509.2	514.1
40°	454.1	460.7	475.5	492.8	499.3
42.5°	431.9	440.9	457.4	476.3	483.7
45°	409.7	417.9	438.5	459.9	468.1
47.5°	385.8	395.7	417.9	443.4	453.3
50°	360.3	372.7	398.2	426.1	436.8
52.5°	334.8	348.8	377.6	408.9	420.4
55°	310.1	323.3	357.8	391.6	403.9
57.5°	283.0	299.4	337.3	373.5	385.8
60°	255.0	273.1	316.7	354.6	367.7
62.5°	227.0	247.6	297.0	334.8	348.8
65°	199.1	222.1	273.9	314.2	328.2
67.5°	171.9	197.4	252.6	292.9	306.8
70°	140.7	172.8	229.5	269.0	283.0
72.5°	111.9	148.9	207.3	244.3	256.7
75°	86.4	125.9	182.6	216.4	221.3
77.5°	63.3	102.8	157.1	168.6	169.5
80°	42.8	82.3	120.1	118.5	120.1
82.5°	28.0	61.7	75.7	84.7	85.6
85°	16.5	36.2	44.4	49.4	50.2
87.5°	8.2	12.3	15.6	16.5	18.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)