

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: P309935

Luminaire Tested: **24FCZ2-35HE-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: P309935
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: 24FCZ2-35HE-UNV-L82765-RDP-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (336) 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: 2021.0 lumens
Efficiency: N/A
Efficacy: 76.8 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

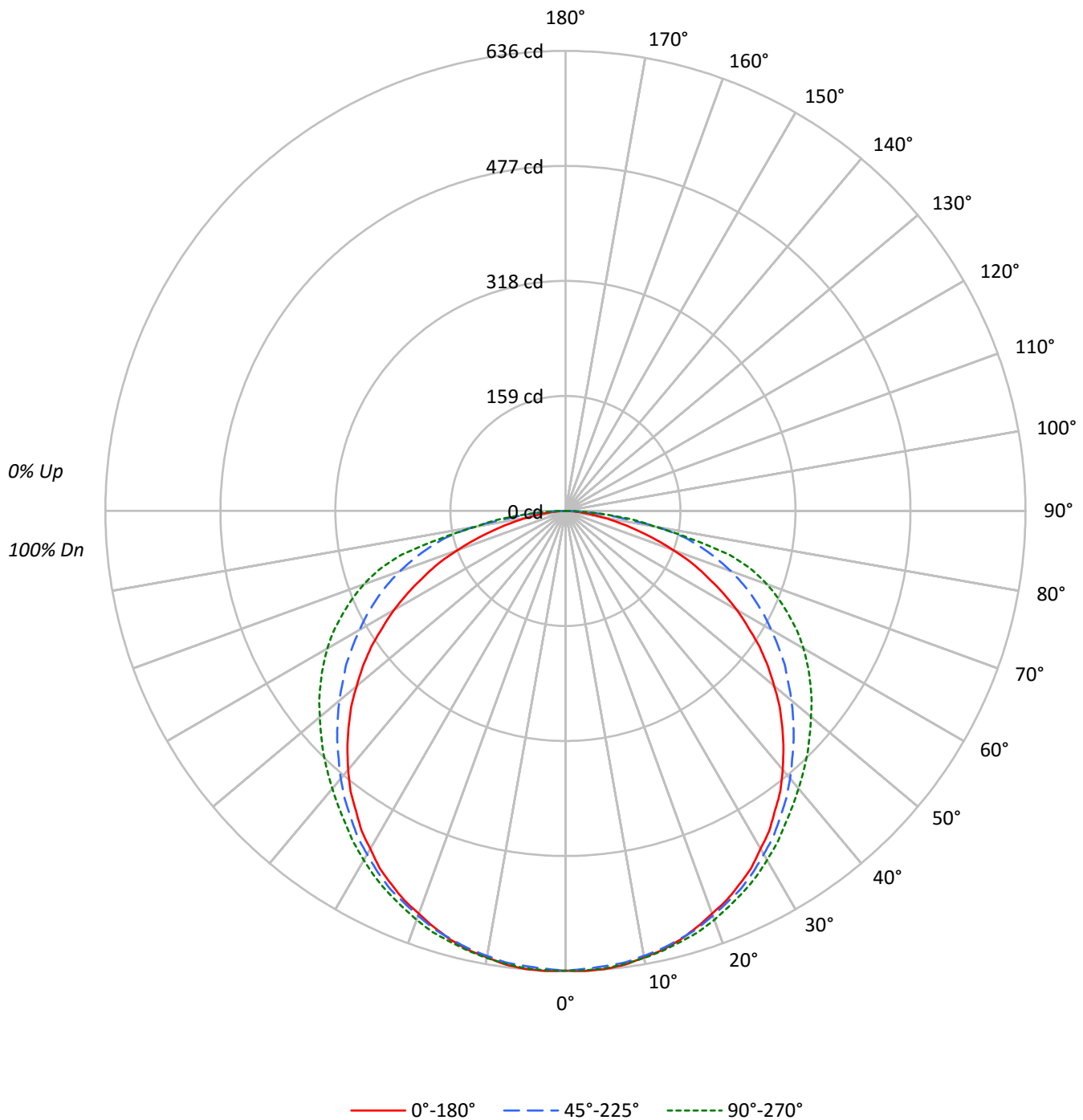
Input Watts (W): 26.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P309935

CATALOG NUMBER: 24FCZ2-35HE-UNV-L82765-RDP-CP187-W2A-U-4000K

Luminous Intensity Polar Plot





TEST NUMBER: P309935

CATALOG NUMBER: 24FCZ2-35HE-UNV-L82765-RDP-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	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°	855	855	855
5°	858	853	857
10°	856	853	857
15°	855	853	859
20°	848	853	861
25°	845	854	863
30°	838	852	866
35°	830	850	869
40°	820	849	880
45°	807	849	900
50°	789	854	928
55°	769	868	969
60°	737	885	1022
65°	689	916	1085
70°	627	958	1167
75°	531	1011	1220
80°	419	1017	986
85°	309	773	866



TEST NUMBER: P309935

CATALOG NUMBER: 24FCZ2-35HE-UNV-L82765-RDP-CP187-W2A-U-4000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	60.3	3.0
10°-20°	173.5	8.6
20°-30°	265.3	13.1
30°-40°	324.4	16.0
40°-50°	345.7	17.1
50°-60°	330.5	16.4
60°-70°	280.0	13.9
70°-80°	188.2	9.3
80°-90°	53.1	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°	499.1	24.7
0°-40°	823.5	40.7
0°-60°	1499.7	74.2
0°-90°	2021.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2021.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	636	636	636	636	636	
5°	636	634	632	634	634	60
15°	614	614	612	618	616	173
25°	569	571	575	580	581	262
35°	505	509	517	527	529	316
45°	424	431	446	465	473	327
55°	328	340	370	399	413	292
65°	216	239	288	326	341	215
75°	102	139	194	228	235	109
85°	20	41	50	54	56	25
90°	0	0	0	0	0	



TEST NUMBER: P309935

CATALOG NUMBER: 24FCZ2-35HE-UNV-L82765-RDP-CP187-W2A-U-4000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	635.5	635.5	635.5	635.5	635.5
2.5°	636.5	636.5	633.5	635.5	635.5
5°	635.5	634.5	631.5	634.5	634.5
7.5°	632.5	631.5	629.5	632.5	631.5
10°	626.5	626.5	624.5	627.5	627.5
12.5°	621.5	620.5	619.5	623.5	622.5
15°	613.5	613.5	612.5	617.5	616.5
17.5°	603.5	604.5	605.5	609.5	610.5
20°	592.4	594.4	595.4	601.5	601.5
22.5°	582.4	583.4	585.4	591.4	591.4
25°	569.4	571.4	575.4	580.4	581.4
27.5°	556.4	557.4	562.4	569.4	570.4
30°	539.3	542.3	548.3	556.4	557.4
32.5°	524.3	527.3	534.3	542.3	544.3
35°	505.2	509.2	517.3	527.3	529.3
37.5°	488.2	491.2	501.2	512.2	515.3
40°	467.1	473.2	483.2	496.2	501.2
42.5°	446.1	452.1	464.1	481.2	487.2
45°	424.0	431.0	446.1	465.1	473.2
47.5°	402.0	410.0	427.0	449.1	458.1
50°	376.9	386.9	408.0	433.1	443.1
52.5°	352.9	364.9	387.9	416.0	429.0
55°	327.8	339.8	369.9	399.0	413.0
57.5°	299.7	315.8	348.8	381.9	397.0
60°	273.7	288.7	328.8	364.9	379.9
62.5°	245.6	265.6	308.8	346.8	361.9
65°	216.5	238.6	287.7	325.8	340.8
67.5°	190.5	214.5	266.6	304.7	319.8
70°	159.4	189.5	243.6	281.7	296.7
72.5°	130.3	163.4	219.5	256.6	270.7
75°	102.2	139.3	194.5	227.6	234.6
77.5°	76.2	115.3	168.4	182.4	177.4
80°	54.1	92.2	131.3	124.3	127.3
82.5°	35.1	70.2	81.2	92.2	95.2
85°	20.0	41.1	50.1	54.1	56.1
87.5°	9.0	15.0	20.0	20.0	19.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)