

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: P313105

Luminaire Tested: **24FCZ2-35HE-UNV-L83050-HRP-CP187-W2A-U-3000K**

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: P313105
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: 24FCZ2-35HE-UNV-L83050-HRP-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (336) 3000K 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: 2210.0 lumens
Efficiency: N/A
Efficacy: 85.3 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

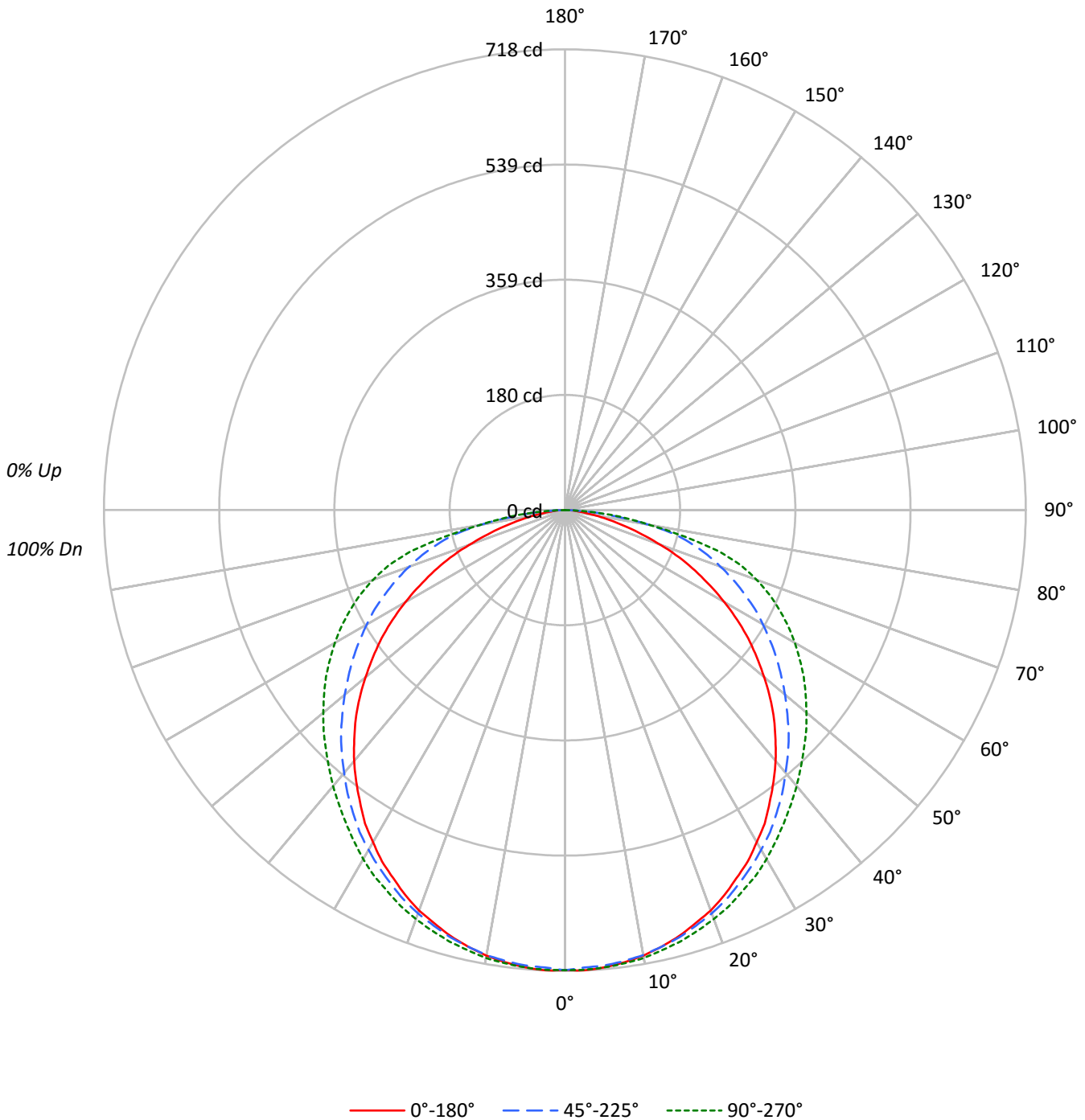
Input Watts (W): 25.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P313105

CATALOG NUMBER: 24FCZ2-35HE-UNV-L83050-HRP-CP187-W2A-U-3000K

Luminous Intensity Polar Plot





TEST NUMBER: P313105

CATALOG NUMBER: 24FCZ2-35HE-UNV-L83050-HRP-CP187-W2A-U-3000K

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°	965	965	965
5°	966	962	966
10°	963	962	968
15°	958	960	969
20°	951	958	971
25°	939	953	972
30°	929	950	976
35°	913	945	977
40°	897	939	986
45°	877	938	1002
50°	848	937	1028
55°	818	944	1066
60°	772	959	1113
65°	713	981	1175
70°	622	1015	1252
75°	505	1068	1294
80°	373	1047	1047
85°	286	772	871



TEST NUMBER: P313105

CATALOG NUMBER: 24FCZ2-35HE-UNV-L83050-HRP-CP187-W2A-U-3000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.9	3.1
10°-20°	195.1	8.8
20°-30°	296.9	13.4
30°-40°	360.6	16.3
40°-50°	380.9	17.2
50°-60°	359.5	16.3
60°-70°	298.9	13.5
70°-80°	196.6	8.9
80°-90°	53.6	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°	559.9	25.3
0°-40°	920.5	41.7
0°-60°	1660.9	75.2
0°-90°	2210.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2210.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	717	717	717	717	717	
5°	715	715	712	715	715	68
15°	687	688	689	696	696	194
25°	633	636	642	653	655	292
35°	556	562	576	590	595	348
45°	461	470	493	517	526	355
55°	349	364	402	440	454	311
65°	224	250	308	353	369	221
75°	97	142	205	243	249	105
85°	18	41	50	56	56	23
90°	0	0	0	0	0	



TEST NUMBER: P313105

CATALOG NUMBER: 24FCZ2-35HE-UNV-L83050-HRP-CP187-W2A-U-3000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	717.0	717.0	717.0	717.0	717.0
2.5°	718.0	717.0	713.3	717.0	717.0
5°	715.2	715.2	712.4	715.2	715.2
7.5°	710.6	710.6	708.7	712.4	712.4
10°	705.0	705.0	704.1	708.7	708.7
12.5°	696.7	697.6	696.7	702.2	702.2
15°	687.4	688.4	689.3	695.8	695.8
17.5°	675.4	677.3	679.1	686.5	687.4
20°	664.3	665.2	668.9	677.3	678.2
22.5°	649.5	652.3	656.9	665.2	668.0
25°	632.8	636.5	642.1	653.2	655.0
27.5°	617.1	619.9	627.3	639.3	643.0
30°	597.7	602.3	611.6	623.6	628.2
32.5°	579.2	583.8	594.9	607.9	611.6
35°	556.1	562.5	575.5	590.3	594.9
37.5°	533.8	540.3	556.1	572.7	578.3
40°	510.7	518.1	534.8	554.2	561.6
42.5°	485.7	495.9	514.4	535.7	544.0
45°	460.8	470.0	493.1	517.2	526.4
47.5°	433.9	445.0	470.0	498.7	509.8
50°	405.2	419.1	447.8	479.3	491.3
52.5°	376.6	392.3	424.7	459.8	472.8
55°	348.8	363.6	402.5	440.4	454.3
57.5°	318.3	336.8	379.3	420.0	433.9
60°	286.8	307.2	356.2	398.8	413.6
62.5°	255.4	278.5	334.0	376.6	392.3
65°	223.9	249.8	308.1	353.4	369.2
67.5°	193.4	222.0	284.0	329.4	345.1
70°	158.2	194.3	258.1	302.5	318.3
72.5°	125.8	167.5	233.2	274.8	288.7
75°	97.1	141.6	205.4	243.3	248.9
77.5°	71.2	115.7	176.7	189.7	190.6
80°	48.1	92.5	135.1	133.2	135.1
82.5°	31.5	69.4	85.1	95.3	96.2
85°	18.5	40.7	50.0	55.5	56.4
87.5°	9.3	13.9	17.6	18.5	20.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)