

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: P313632

Luminaire Tested: **24FCZ2-50HE-UNV-L83050-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: P313632
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: 24FCZ2-50HE-UNV-L83050-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: 3036.0 lumens
Efficiency: N/A
Efficacy: 77.3 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

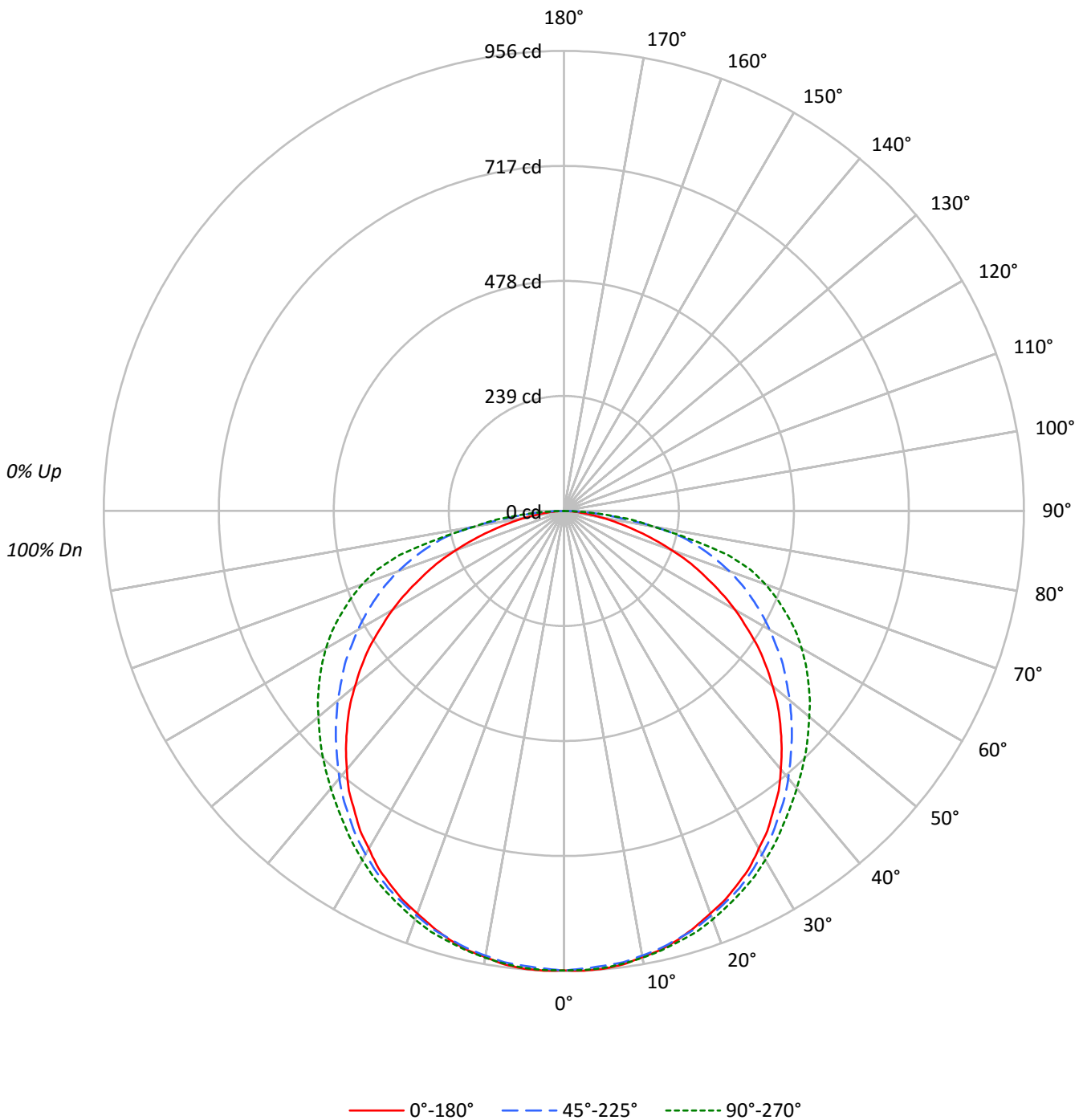
Input Watts (W): 39.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P313632

CATALOG NUMBER: 24FCZ2-50HE-UNV-L83050-RDP-CP187-W2A-U-4000K

Luminous Intensity Polar Plot





TEST NUMBER: P313632

CATALOG NUMBER: 24FCZ2-50HE-UNV-L83050-RDP-CP187-W2A-U-4000K

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	100	96	92	96	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	68	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1285	1285	1285
5°	1289	1281	1287
10°	1286	1282	1288
15°	1284	1282	1290
20°	1274	1281	1294
25°	1270	1283	1297
30°	1259	1280	1301
35°	1247	1276	1306
40°	1232	1275	1322
45°	1212	1275	1353
50°	1185	1283	1393
55°	1155	1304	1455
60°	1106	1329	1536
65°	1036	1376	1630
70°	942	1439	1753
75°	799	1519	1832
80°	630	1529	1481
85°	465	1162	1301



TEST NUMBER: P313632

CATALOG NUMBER: 24FCZ2-50HE-UNV-L83050-RDP-CP187-W2A-U-4000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.6	3.0
10°-20°	260.6	8.6
20°-30°	398.6	13.1
30°-40°	487.3	16.0
40°-50°	519.3	17.1
50°-60°	496.5	16.4
60°-70°	420.6	13.9
70°-80°	282.7	9.3
80°-90°	79.7	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°	749.8	24.7
0°-40°	1237.1	40.7
0°-60°	2252.9	74.2
0°-90°	3036.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3036.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	955	955	955	955	955	
5°	955	953	949	953	953	91
15°	922	922	920	928	926	260
25°	855	858	864	872	873	394
35°	759	765	777	792	795	475
45°	637	648	670	699	711	491
55°	492	510	556	599	620	439
65°	325	358	432	489	512	323
75°	154	209	292	342	352	164
85°	30	62	75	81	84	37
90°	0	0	0	0	0	



TEST NUMBER: P313632

CATALOG NUMBER: 24FCZ2-50HE-UNV-L83050-RDP-CP187-W2A-U-4000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	954.7	954.7	954.7	954.7	954.7
2.5°	956.2	956.2	951.7	954.7	954.7
5°	954.7	953.2	948.7	953.2	953.2
7.5°	950.2	948.7	945.7	950.2	948.7
10°	941.2	941.2	938.2	942.7	942.7
12.5°	933.7	932.1	930.6	936.7	935.2
15°	921.6	921.6	920.1	927.6	926.1
17.5°	906.5	908.1	909.6	915.6	917.1
20°	890.0	893.0	894.5	903.5	903.5
22.5°	874.9	876.4	879.4	888.5	888.5
25°	855.3	858.4	864.4	871.9	873.4
27.5°	835.8	837.3	844.8	855.3	856.9
30°	810.2	814.7	823.7	835.8	837.3
32.5°	787.6	792.1	802.6	814.7	817.7
35°	759.0	765.0	777.0	792.1	795.1
37.5°	733.4	737.9	752.9	769.5	774.0
40°	701.7	710.8	725.8	745.4	752.9
42.5°	670.1	679.2	697.2	722.8	731.9
45°	637.0	647.5	670.1	698.7	710.8
47.5°	603.9	615.9	641.5	674.6	688.2
50°	566.2	581.3	612.9	650.5	665.6
52.5°	530.1	548.1	582.8	624.9	644.5
55°	492.4	510.5	555.7	599.3	620.4
57.5°	450.3	474.4	524.1	573.7	596.3
60°	411.1	433.7	493.9	548.1	570.7
62.5°	368.9	399.1	463.8	521.0	543.6
65°	325.3	358.4	432.2	489.4	512.0
67.5°	286.1	322.3	400.6	457.8	480.4
70°	239.4	284.6	365.9	423.2	445.7
72.5°	195.8	245.5	329.8	385.5	406.6
75°	153.6	209.3	292.1	341.8	352.4
77.5°	114.4	173.2	253.0	274.1	266.5
80°	81.3	138.5	197.3	186.7	191.2
82.5°	52.7	105.4	122.0	138.5	143.1
85°	30.1	61.7	75.3	81.3	84.3
87.5°	13.6	22.6	30.1	30.1	28.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)