

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: P313167

Luminaire Tested: **24FCZ2-40-UNV-L83050-HRP-CA08-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: P313167
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: 24FCZ2-40-UNV-L83050-HRP-CA08-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC 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

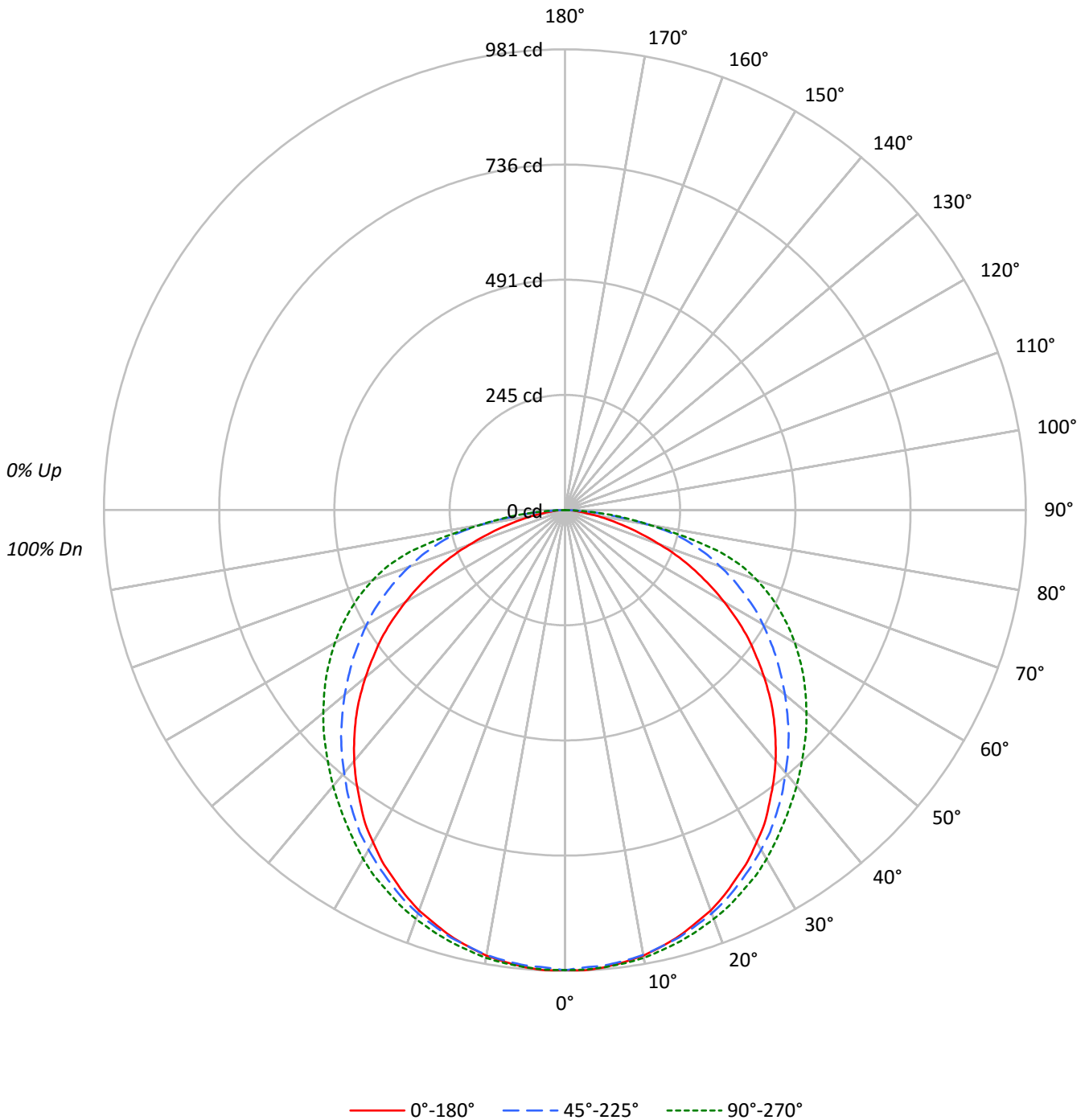
Lumens per Lamp: N/A
Luminaire Lumens: 3019.0 lumens
Efficiency: N/A
Efficacy: 90.1 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.5
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: P313167
CATALOG NUMBER: 24FCZ2-40-UNV-L83050-HRP-CA08-W2A-U-4000K

Luminous Intensity Polar Plot





TEST NUMBER: P313167

CATALOG NUMBER: 24FCZ2-40-UNV-L83050-HRP-CA08-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	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°	1318	1318	1318
5°	1320	1314	1320
10°	1316	1314	1323
15°	1308	1312	1324
20°	1299	1308	1326
25°	1283	1302	1328
30°	1269	1298	1333
35°	1248	1291	1335
40°	1225	1283	1348
45°	1198	1282	1369
50°	1159	1280	1405
55°	1118	1290	1456
60°	1054	1309	1520
65°	974	1340	1606
70°	850	1387	1710
75°	690	1459	1768
80°	509	1430	1430
85°	391	1054	1190



TEST NUMBER: P313167

CATALOG NUMBER: 24FCZ2-40-UNV-L83050-HRP-CA08-W2A-U-4000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.8	3.1
10°-20°	266.5	8.8
20°-30°	405.6	13.4
30°-40°	492.6	16.3
40°-50°	520.4	17.2
50°-60°	491.0	16.3
60°-70°	408.3	13.5
70°-80°	268.6	8.9
80°-90°	73.2	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°	764.9	25.3
0°-40°	1257.5	41.7
0°-60°	2268.9	75.2
0°-90°	3019.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3019.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	980	980	980	980	980	
5°	977	977	973	977	977	93
15°	939	940	942	950	950	265
25°	864	870	877	892	895	399
35°	760	768	786	806	813	476
45°	629	642	674	706	719	485
55°	476	497	550	602	621	424
65°	306	341	421	483	504	302
75°	133	193	281	332	340	143
85°	25	56	68	76	77	31
90°	0	0	0	0	0	



TEST NUMBER: P313167

CATALOG NUMBER: 24FCZ2-40-UNV-L83050-HRP-CA08-W2A-U-4000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	979.5	979.5	979.5	979.5	979.5
2.5°	980.8	979.5	974.5	979.5	979.5
5°	977.0	977.0	973.2	977.0	977.0
7.5°	970.7	970.7	968.1	973.2	973.2
10°	963.1	963.1	961.8	968.1	968.1
12.5°	951.7	953.0	951.7	959.3	959.3
15°	939.1	940.3	941.6	950.4	950.4
17.5°	922.6	925.2	927.7	937.8	939.1
20°	907.5	908.7	913.8	925.2	926.4
22.5°	887.3	891.0	897.4	908.7	912.5
25°	864.5	869.6	877.1	892.3	894.8
27.5°	843.0	846.8	856.9	873.3	878.4
30°	816.5	822.8	835.4	851.9	858.2
32.5°	791.2	797.5	812.7	830.4	835.4
35°	759.6	768.4	786.1	806.4	812.7
37.5°	729.3	738.1	759.6	782.3	789.9
40°	697.7	707.8	730.5	757.1	767.2
42.5°	663.5	677.4	702.7	731.8	743.2
45°	629.4	642.1	673.7	706.5	719.2
47.5°	592.8	607.9	642.1	681.2	696.4
50°	553.6	572.5	611.7	654.7	671.1
52.5°	514.4	535.9	580.1	628.2	645.8
55°	476.5	496.7	549.8	601.6	620.6
57.5°	434.8	460.1	518.2	573.8	592.8
60°	391.8	419.6	486.6	544.7	565.0
62.5°	348.8	380.4	456.3	514.4	535.9
65°	305.9	341.3	420.9	482.8	504.3
67.5°	264.2	303.3	388.0	449.9	471.4
70°	216.1	265.4	352.6	413.3	434.8
72.5°	171.9	228.8	318.5	375.4	394.3
75°	132.7	193.4	280.6	332.4	340.0
77.5°	97.3	158.0	241.4	259.1	260.4
80°	65.7	126.4	184.5	182.0	184.5
82.5°	43.0	94.8	116.3	130.2	131.4
85°	25.3	55.6	68.3	75.8	77.1
87.5°	12.6	19.0	24.0	25.3	27.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)