

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: P313567

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-RDP-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: P313567
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: 24FCZ2-45HE-UNV-L83050-RDP-CA08-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC 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: 2896.0 lumens
Efficiency: N/A
Efficacy: 83.7 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

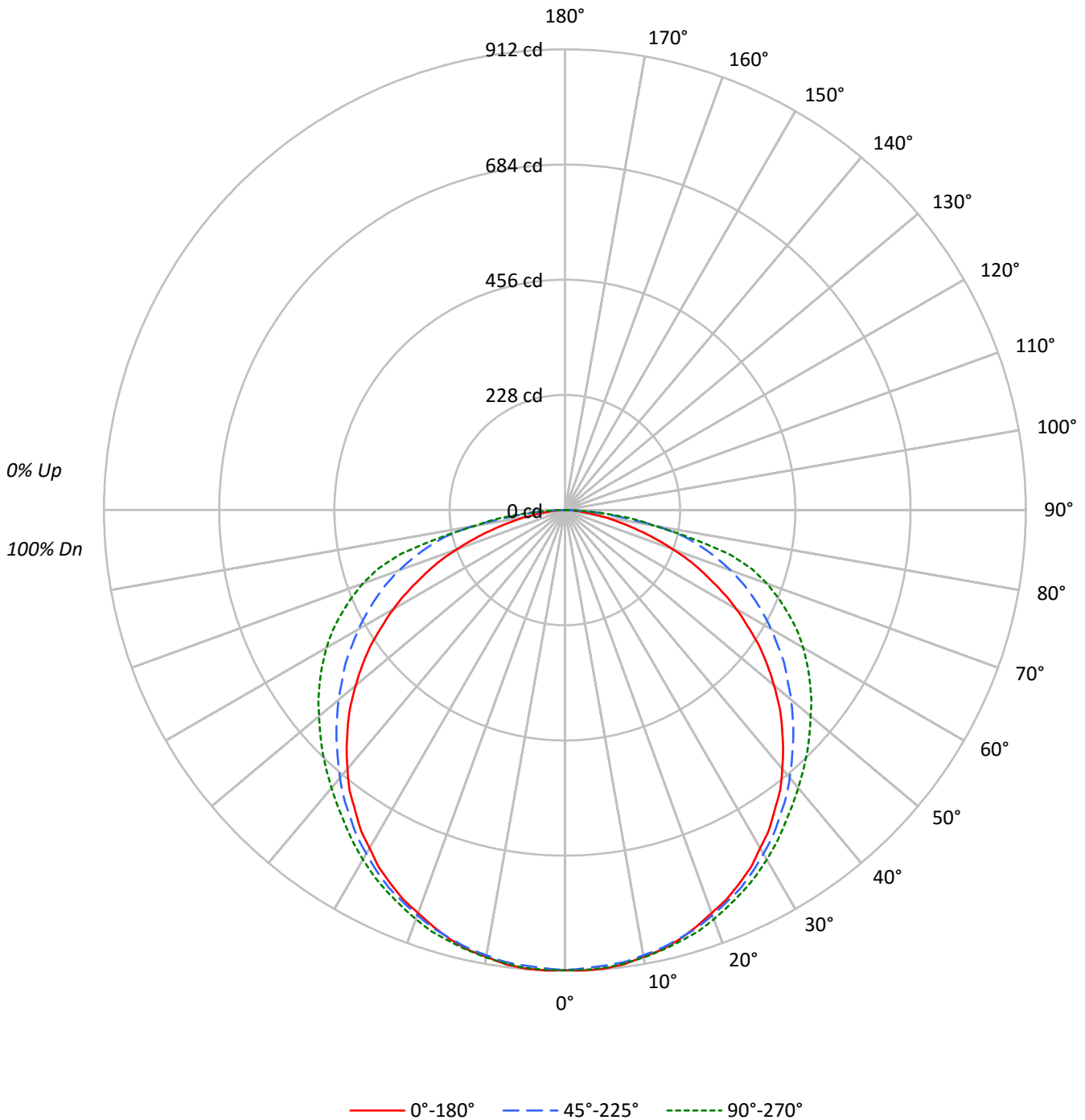
Input Watts (W): 34.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P313567

CATALOG NUMBER: 24FCZ2-45HE-UNV-L83050-RDP-CA08-W2A-U-4000K

Luminous Intensity Polar Plot





TEST NUMBER: P313567

CATALOG NUMBER: 24FCZ2-45HE-UNV-L83050-RDP-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	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	67	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°	1225	1225	1225
5°	1230	1222	1228
10°	1227	1223	1229
15°	1225	1223	1231
20°	1215	1222	1234
25°	1211	1224	1237
30°	1201	1221	1241
35°	1189	1217	1246
40°	1176	1216	1261
45°	1156	1216	1290
50°	1131	1224	1329
55°	1102	1244	1388
60°	1055	1268	1465
65°	988	1313	1555
70°	899	1373	1673
75°	762	1449	1747
80°	601	1458	1413
85°	443	1108	1241



TEST NUMBER: P313567

CATALOG NUMBER: 24FCZ2-45HE-UNV-L83050-RDP-CA08-W2A-U-4000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.4	3.0
10°-20°	248.6	8.6
20°-30°	380.2	13.1
30°-40°	464.8	16.0
40°-50°	495.4	17.1
50°-60°	473.6	16.4
60°-70°	401.2	13.9
70°-80°	269.7	9.3
80°-90°	76.1	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°	715.2	24.7
0°-40°	1180.0	40.7
0°-60°	2149.0	74.2
0°-90°	2896.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2896.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	911	911	911	911	911	
5°	911	909	905	909	909	87
15°	879	879	878	885	883	248
25°	816	819	824	832	833	376
35°	724	730	741	756	758	454
45°	608	618	639	666	678	469
55°	470	487	530	572	592	418
65°	310	342	412	467	488	308
75°	146	200	279	326	336	157
85°	29	59	72	78	80	36
90°	0	0	0	0	0	



TEST NUMBER: P313567

CATALOG NUMBER: 24FCZ2-45HE-UNV-L83050-RDP-CA08-W2A-U-4000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	910.7	910.7	910.7	910.7	910.7
2.5°	912.1	912.1	907.8	910.7	910.7
5°	910.7	909.3	905.0	909.3	909.3
7.5°	906.4	905.0	902.1	906.4	905.0
10°	897.8	897.8	894.9	899.2	899.2
12.5°	890.6	889.2	887.7	893.5	892.0
15°	879.1	879.1	877.7	884.9	883.4
17.5°	864.7	866.2	867.6	873.4	874.8
20°	848.9	851.8	853.3	861.9	861.9
22.5°	834.6	836.0	838.9	847.5	847.5
25°	815.9	818.8	824.5	831.7	833.1
27.5°	797.2	798.7	805.8	815.9	817.3
30°	772.8	777.1	785.7	797.2	798.7
32.5°	751.3	755.6	765.6	777.1	780.0
35°	724.0	729.7	741.2	755.6	758.4
37.5°	699.6	703.9	718.2	734.0	738.3
40°	669.4	678.0	692.4	711.0	718.2
42.5°	639.2	647.8	665.1	689.5	698.1
45°	607.6	617.7	639.2	666.5	678.0
47.5°	576.0	587.5	611.9	643.5	656.5
50°	540.1	554.5	584.6	620.5	634.9
52.5°	505.6	522.9	555.9	596.1	614.8
55°	469.7	487.0	530.1	571.7	591.8
57.5°	429.5	452.5	499.9	547.3	568.8
60°	392.2	413.7	471.2	522.9	544.4
62.5°	351.9	380.7	442.4	497.0	518.6
65°	310.3	341.9	412.3	466.8	488.4
67.5°	272.9	307.4	382.1	436.7	458.2
70°	228.4	271.5	349.1	403.6	425.2
72.5°	186.7	234.1	314.6	367.7	387.8
75°	146.5	199.7	278.7	326.1	336.1
77.5°	109.2	165.2	241.3	261.4	254.3
80°	77.6	132.2	188.2	178.1	182.4
82.5°	50.3	100.6	116.4	132.2	136.5
85°	28.7	58.9	71.8	77.6	80.4
87.5°	12.9	21.5	28.7	28.7	27.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)