

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: P313237

Luminaire Tested: **24FCZ2-45-UNV-L83050-HRP-CP250-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: P313237  
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: 24FCZ2-45-UNV-L83050-HRP-CP250-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"  
POLYCARB 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: 3137.0 lumens  
Efficiency: N/A  
Efficacy: 81.5 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

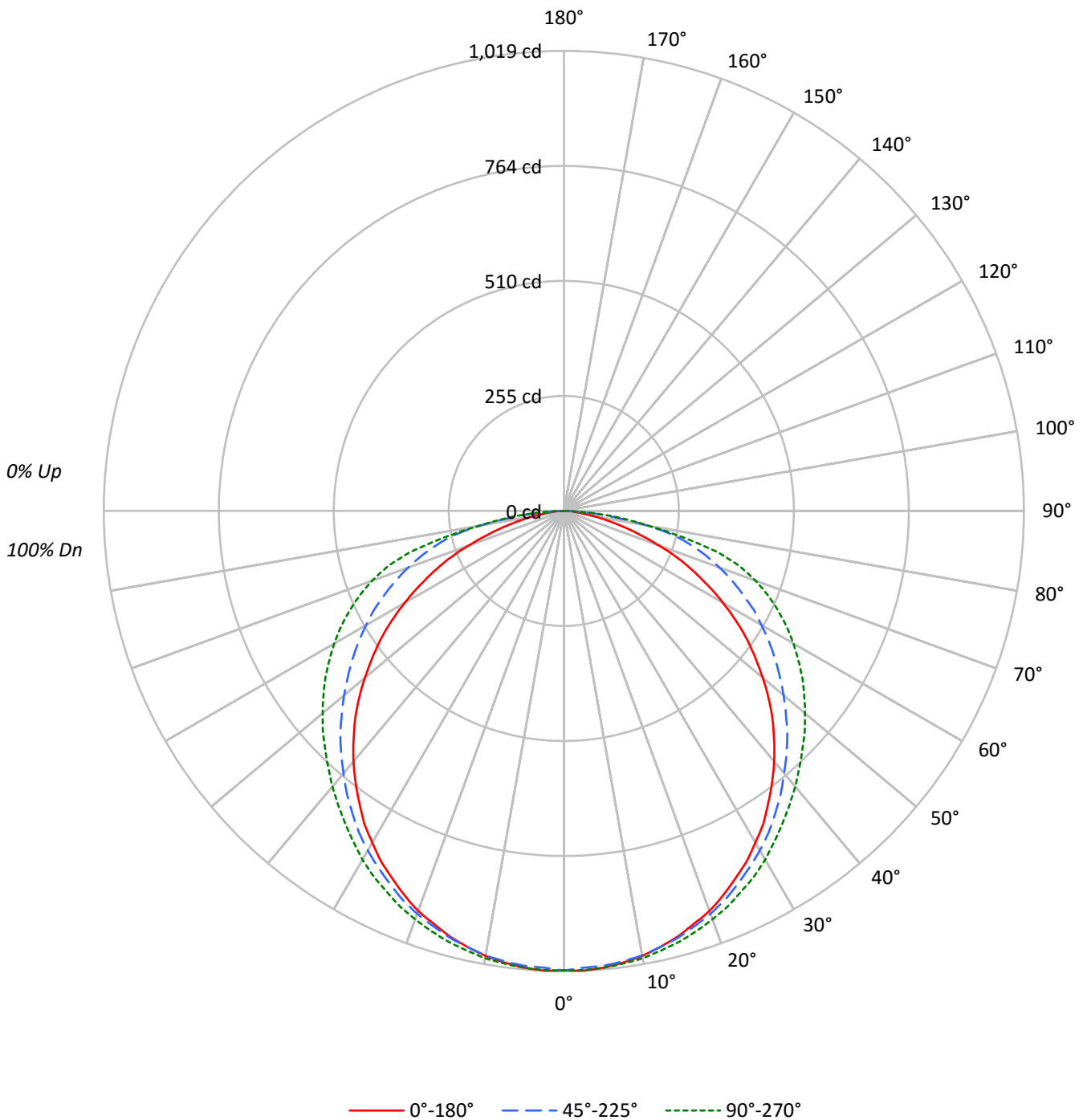
Input Watts (W): 38.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P313237

CATALOG NUMBER: 24FCZ2-45-UNV-L83050-HRP-CP250-W2A-U-4000K

### Luminous Intensity Polar Plot





TEST NUMBER: P313237

CATALOG NUMBER: 24FCZ2-45-UNV-L83050-HRP-CP250-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°	1369	1369	1369
5°	1371	1366	1371
10°	1367	1365	1374
15°	1359	1363	1376
20°	1350	1360	1378
25°	1334	1353	1380
30°	1318	1349	1385
35°	1296	1342	1387
40°	1273	1333	1400
45°	1244	1332	1422
50°	1204	1330	1460
55°	1161	1340	1513
60°	1095	1361	1580
65°	1012	1392	1668
70°	884	1441	1777
75°	717	1516	1837
80°	529	1485	1485
85°	406	1095	1237



TEST NUMBER: P313237

CATALOG NUMBER: 24FCZ2-45-UNV-L83050-HRP-CP250-W2A-U-4000K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	96.4	3.1
10°-20°	276.9	8.8
20°-30°	421.5	13.4
30°-40°	511.8	16.3
40°-50°	540.7	17.2
50°-60°	510.2	16.3
60°-70°	424.2	13.5
70°-80°	279.1	8.9
80°-90°	76.1	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°	794.8	25.3
0°-40°	1306.6	41.7
0°-60°	2357.6	75.2
0°-90°	3137.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3137.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1018	1018	1018	1018	1018	
5°	1015	1015	1011	1015	1015	96
15°	976	977	978	988	988	275
25°	898	904	911	927	930	414
35°	789	798	817	838	844	494
45°	654	667	700	734	747	504
55°	495	516	571	625	645	441
65°	318	355	437	502	524	314
75°	138	201	292	345	353	149
85°	26	58	71	79	80	32
90°	0	0	0	0	0	



TEST NUMBER: P313237

CATALOG NUMBER: 24FC22-45-UNV-L83050-HRP-CP250-W2A-U-4000K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1017.8	1017.8	1017.8	1017.8	1017.8
2.5°	1019.1	1017.8	1012.5	1017.8	1017.8
5°	1015.2	1015.2	1011.2	1015.2	1015.2
7.5°	1008.6	1008.6	1006.0	1011.2	1011.2
10°	1000.7	1000.7	999.4	1006.0	1006.0
12.5°	988.9	990.2	988.9	996.8	996.8
15°	975.8	977.1	978.4	987.6	987.6
17.5°	958.7	961.3	964.0	974.5	975.8
20°	942.9	944.3	949.5	961.3	962.6
22.5°	921.9	925.9	932.4	944.3	948.2
25°	898.3	903.5	911.4	927.2	929.8
27.5°	876.0	879.9	890.4	907.5	912.7
30°	848.4	855.0	868.1	885.2	891.7
32.5°	822.1	828.7	844.4	862.8	868.1
35°	789.3	798.5	816.9	837.9	844.4
37.5°	757.8	767.0	789.3	812.9	820.8
40°	724.9	735.4	759.1	786.7	797.2
42.5°	689.5	703.9	730.2	760.4	772.2
45°	654.0	667.2	700.0	734.1	747.3
47.5°	615.9	631.7	667.2	707.9	723.6
50°	575.2	594.9	635.6	680.3	697.4
52.5°	534.5	556.8	602.8	652.7	671.1
55°	495.1	516.1	571.3	625.1	644.8
57.5°	451.8	478.0	538.5	596.2	615.9
60°	407.1	436.0	505.6	566.0	587.0
62.5°	362.5	395.3	474.1	534.5	556.8
65°	317.8	354.6	437.3	501.7	524.0
67.5°	274.5	315.2	403.2	467.5	489.9
70°	224.6	275.8	366.4	429.4	451.8
72.5°	178.6	237.7	330.9	390.0	409.7
75°	137.9	200.9	291.6	345.4	353.3
77.5°	101.1	164.2	250.8	269.2	270.5
80°	68.3	131.3	191.7	189.1	191.7
82.5°	44.7	98.5	120.8	135.3	136.6
85°	26.3	57.8	70.9	78.8	80.1
87.5°	13.1	19.7	25.0	26.3	28.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)