

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: P309495

Luminaire Tested: **24FCZ2-45-UNV-L82765-HRP-CP250-W2A-U-4500K**

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: P309495
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-L82765-HRP-CP250-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (168) 4500K 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: 2963.0 lumens
Efficiency: N/A
Efficacy: 77.4 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

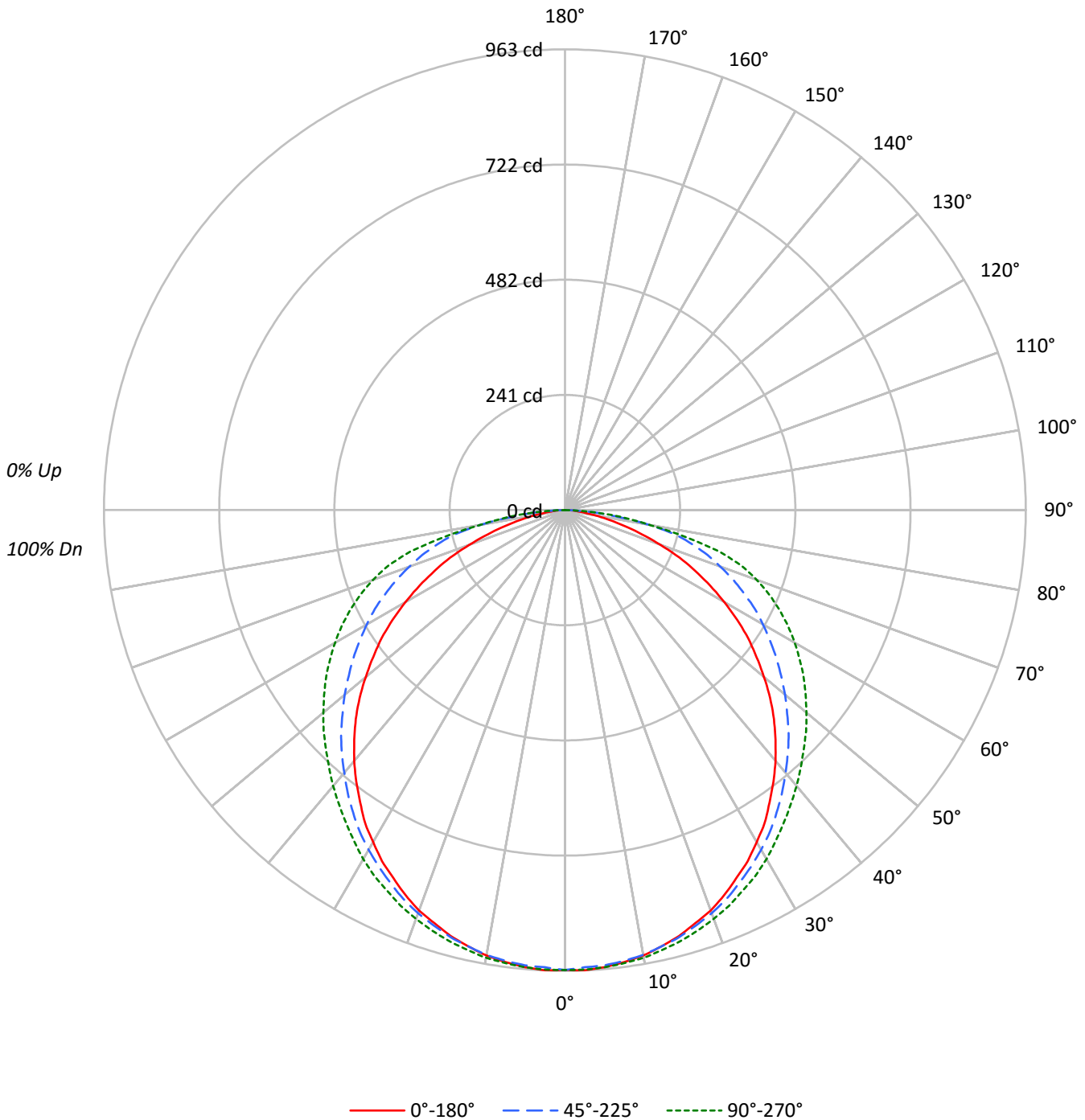
Input Watts (W): 38.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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°	1293	1293	1293
5°	1295	1290	1295
10°	1291	1290	1298
15°	1284	1287	1299
20°	1275	1284	1302
25°	1260	1278	1304
30°	1245	1274	1309
35°	1225	1267	1310
40°	1203	1259	1323
45°	1175	1258	1343
50°	1137	1257	1379
55°	1097	1266	1429
60°	1035	1285	1492
65°	956	1315	1576
70°	834	1362	1679
75°	677	1432	1735
80°	500	1403	1403
85°	383	1034	1169



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.1	3.1
10°-20°	261.5	8.8
20°-30°	398.1	13.4
30°-40°	483.4	16.3
40°-50°	510.7	17.2
50°-60°	481.9	16.3
60°-70°	400.7	13.5
70°-80°	263.6	8.9
80°-90°	71.9	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°	750.7	25.3
0°-40°	1234.1	41.7
0°-60°	2226.8	75.2
0°-90°	2963.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2963.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	961	961	961	961	961	
5°	959	959	955	959	959	91
15°	922	923	924	933	933	260
25°	848	853	861	876	878	391
35°	746	754	772	791	798	467
45°	618	630	661	693	706	476
55°	468	488	540	590	609	417
65°	300	335	413	474	495	297
75°	130	190	275	326	334	140
85°	25	55	67	74	76	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	961.3	961.3	961.3	961.3	961.3
2.5°	962.6	961.3	956.4	961.3	961.3
5°	958.9	958.9	955.1	958.9	958.9
7.5°	952.7	952.7	950.2	955.1	955.1
10°	945.2	945.2	944.0	950.2	950.2
12.5°	934.1	935.3	934.1	941.5	941.5
15°	921.7	922.9	924.1	932.8	932.8
17.5°	905.5	908.0	910.5	920.4	921.7
20°	890.6	891.9	896.8	908.0	909.2
22.5°	870.8	874.5	880.7	891.9	895.6
25°	848.5	853.4	860.9	875.8	878.2
27.5°	827.4	831.1	841.0	857.1	862.1
30°	801.3	807.5	819.9	836.1	842.3
32.5°	776.5	782.7	797.6	815.0	819.9
35°	745.5	754.2	771.6	791.4	797.6
37.5°	715.7	724.4	745.5	767.8	775.3
40°	684.7	694.7	717.0	743.0	753.0
42.5°	651.2	664.9	689.7	718.2	729.4
45°	617.7	630.1	661.2	693.4	705.8
47.5°	581.8	596.7	630.1	668.6	683.5
50°	543.3	561.9	600.4	642.6	658.7
52.5°	504.9	526.0	569.4	616.5	633.9
55°	467.6	487.5	539.6	590.5	609.1
57.5°	426.7	451.5	508.6	563.2	581.8
60°	384.5	411.8	477.6	534.6	554.5
62.5°	342.4	373.4	447.8	504.9	526.0
65°	300.2	334.9	413.1	473.9	494.9
67.5°	259.3	297.7	380.8	441.6	462.7
70°	212.1	260.5	346.1	405.6	426.7
72.5°	168.7	224.5	312.6	368.4	387.0
75°	130.2	189.8	275.4	326.2	333.7
77.5°	95.5	155.1	236.9	254.3	255.5
80°	64.5	124.0	181.1	178.6	181.1
82.5°	42.2	93.0	114.1	127.8	129.0
85°	24.8	54.6	67.0	74.4	75.7
87.5°	12.4	18.6	23.6	24.8	27.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)