

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: P309494

Luminaire Tested: **24FCZ2-45-UNV-L82765-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: P309494
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-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: 2912.0 lumens
Efficiency: N/A
Efficacy: 76.6 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

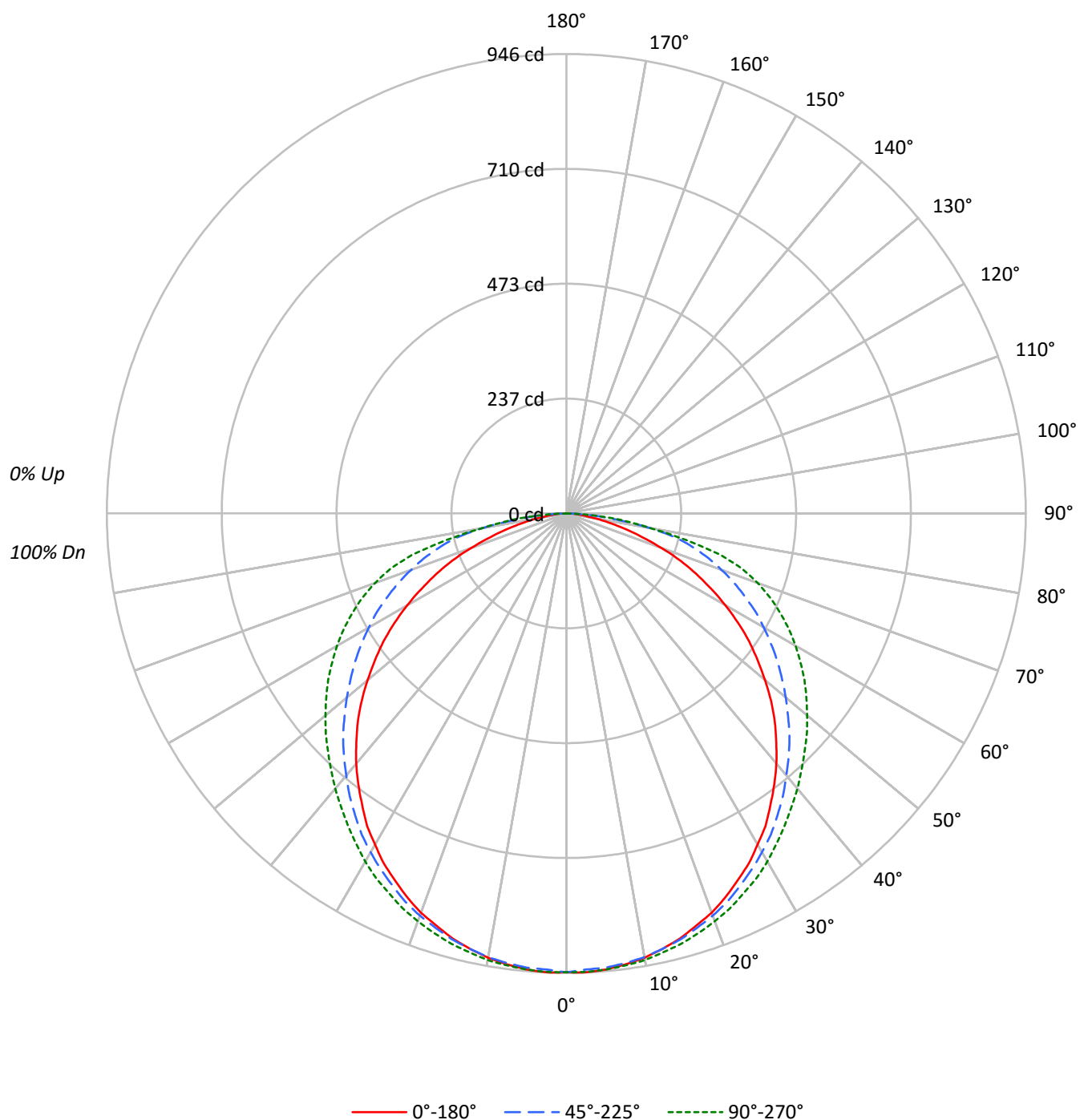
Input Watts (W): 38
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	101	96	93	96	93	90		92	90	87		82
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		67
3	89	78	69	62	86	76	68	62	73	66	61		70	64	59		56
4	81	68	59	52	79	67	59	52	65	57	51		62	56	50		48
5	74	61	52	45	72	60	51	45	58	50	44		56	49	44		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	63	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	36	30	57	44	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	24		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1271	1271	1271
5°	1273	1268	1273
10°	1269	1267	1276
15°	1262	1265	1277
20°	1253	1262	1279
25°	1238	1256	1281
30°	1223	1252	1286
35°	1203	1246	1288
40°	1182	1238	1300
45°	1155	1236	1320
50°	1118	1235	1355
55°	1078	1244	1404
60°	1017	1263	1466
65°	939	1293	1549
70°	820	1338	1650
75°	665	1407	1705
80°	491	1379	1379
85°	377	1016	1149



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.5	3.1
10°-20°	257.0	8.8
20°-30°	391.3	13.4
30°-40°	475.1	16.3
40°-50°	501.9	17.2
50°-60°	473.6	16.3
60°-70°	393.8	13.5
70°-80°	259.1	8.9
80°-90°	70.6	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°	737.8	25.3
0°-40°	1212.9	41.7
0°-60°	2188.5	75.2
0°-90°	2912.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2912.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	945	945	945	945	945	
5°	942	942	939	942	942	90
15°	906	907	908	917	917	255
25°	834	839	846	861	863	385
35°	733	741	758	778	784	459
45°	607	619	650	682	694	468
55°	460	479	530	580	599	409
65°	295	329	406	466	486	292
75°	128	186	271	321	328	138
85°	24	54	66	73	74	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	944.8	944.8	944.8	944.8	944.8
2.5°	946.0	944.8	939.9	944.8	944.8
5°	942.4	942.4	938.7	942.4	942.4
7.5°	936.3	936.3	933.8	938.7	938.7
10°	929.0	929.0	927.7	933.8	933.8
12.5°	918.0	919.2	918.0	925.3	925.3
15°	905.8	907.0	908.2	916.8	916.8
17.5°	889.9	892.4	894.8	904.6	905.8
20°	875.3	876.5	881.4	892.4	893.6
22.5°	855.8	859.5	865.6	876.5	880.2
25°	833.9	838.7	846.1	860.7	863.1
27.5°	813.1	816.8	826.5	842.4	847.3
30°	787.5	793.6	805.8	821.7	827.8
32.5°	763.2	769.3	783.9	800.9	805.8
35°	732.7	741.2	758.3	777.8	783.9
37.5°	703.4	712.0	732.7	754.6	761.9
40°	672.9	682.7	704.6	730.2	740.0
42.5°	640.0	653.4	677.8	705.9	716.8
45°	607.1	619.3	649.8	681.5	693.7
47.5°	571.8	586.4	619.3	657.1	671.7
50°	534.0	552.3	590.0	631.5	647.3
52.5°	496.2	516.9	559.6	605.9	623.0
55°	459.6	479.1	530.3	580.3	598.6
57.5°	419.4	443.8	499.8	553.5	571.8
60°	377.9	404.7	469.4	525.4	544.9
62.5°	336.5	366.9	440.1	496.2	516.9
65°	295.0	329.2	406.0	465.7	486.4
67.5°	254.8	292.6	374.3	434.0	454.7
70°	208.5	256.0	340.1	398.6	419.4
72.5°	165.8	220.7	307.2	362.1	380.4
75°	128.0	186.5	270.6	320.6	327.9
77.5°	93.9	152.4	232.8	249.9	251.1
80°	63.4	121.9	178.0	175.6	178.0
82.5°	41.4	91.4	112.2	125.6	126.8
85°	24.4	53.6	65.8	73.1	74.4
87.5°	12.2	18.3	23.2	24.4	26.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)