

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: P313221

Luminaire Tested: **24FCZ2-45-UNV-L83050-HRP-CA125-W2A-U-3500K**

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: P313221
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-CA125-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" ACRYLIC SHEET
Light Source: (168) 3500K 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: 3207.0 lumens
Efficiency: N/A
Efficacy: 85.3 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

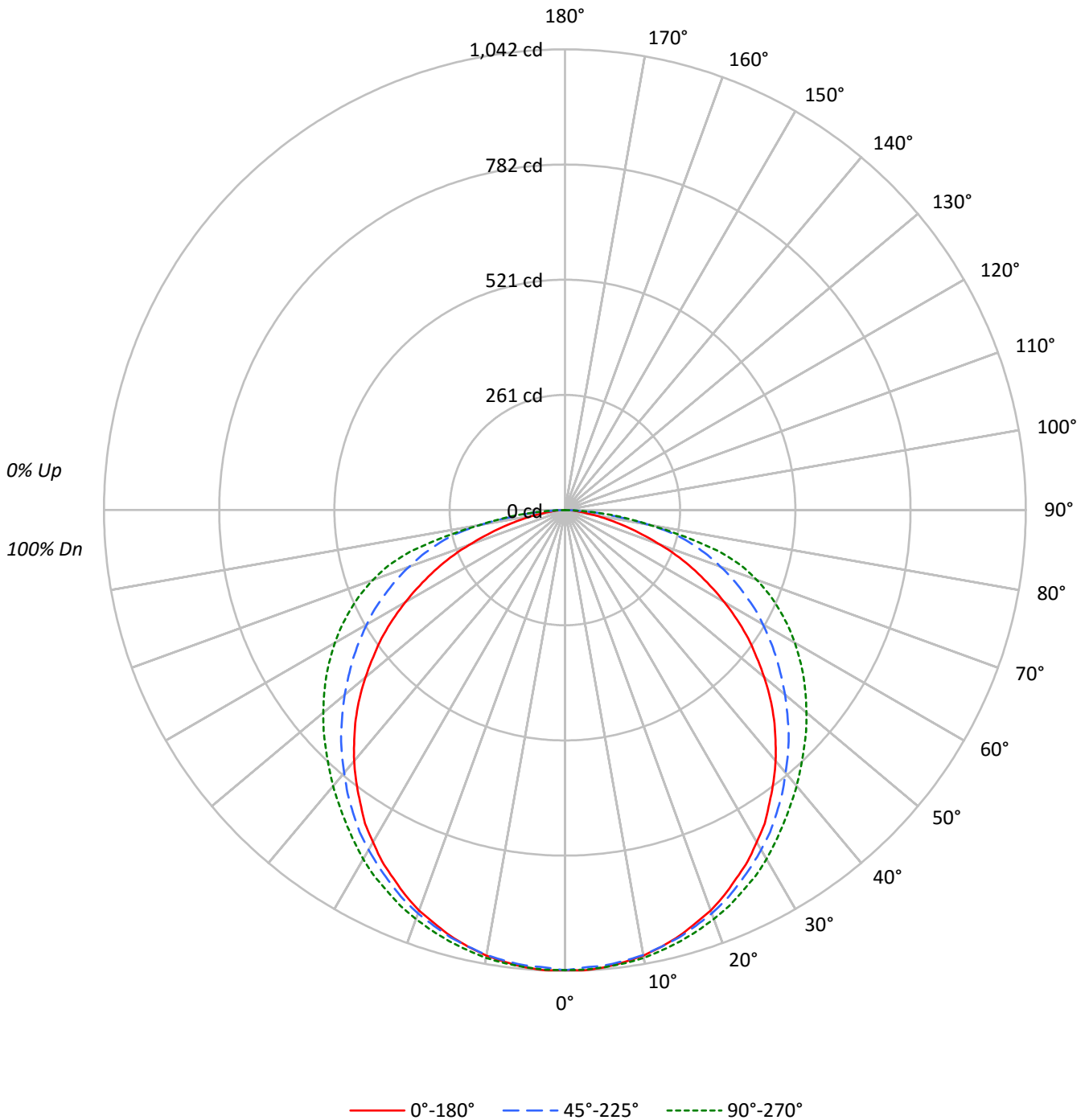
Input Watts (W): 37.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1400	1400	1400
5°	1402	1396	1402
10°	1398	1396	1405
15°	1390	1393	1406
20°	1380	1390	1409
25°	1363	1383	1411
30°	1347	1379	1416
35°	1325	1372	1418
40°	1302	1363	1431
45°	1272	1362	1454
50°	1231	1360	1492
55°	1187	1370	1546
60°	1120	1391	1615
65°	1034	1423	1706
70°	903	1474	1817
75°	733	1550	1878
80°	541	1519	1519
85°	415	1119	1264



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.6	3.1
10°-20°	283.1	8.8
20°-30°	430.9	13.4
30°-40°	523.2	16.3
40°-50°	552.8	17.2
50°-60°	521.6	16.3
60°-70°	433.7	13.5
70°-80°	285.3	8.9
80°-90°	77.8	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°	812.5	25.3
0°-40°	1335.8	41.7
0°-60°	2410.2	75.2
0°-90°	3207.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3207.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1040	1040	1040	1040	1040	
5°	1038	1038	1034	1038	1038	99
15°	998	999	1000	1010	1010	281
25°	918	924	932	948	951	424
35°	807	816	835	857	863	505
45°	669	682	716	750	764	515
55°	506	528	584	639	659	451
65°	325	362	447	513	536	321
75°	141	205	298	353	361	152
85°	27	59	72	81	82	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1040.5	1040.5	1040.5	1040.5	1040.5
2.5°	1041.9	1040.5	1035.1	1040.5	1040.5
5°	1037.8	1037.8	1033.8	1037.8	1037.8
7.5°	1031.1	1031.1	1028.4	1033.8	1033.8
10°	1023.1	1023.1	1021.7	1028.4	1028.4
12.5°	1011.0	1012.3	1011.0	1019.0	1019.0
15°	997.6	998.9	1000.2	1009.6	1009.6
17.5°	980.1	982.8	985.5	996.2	997.6
20°	964.0	965.3	970.7	982.8	984.1
22.5°	942.5	946.5	953.2	965.3	969.4
25°	918.3	923.7	931.8	947.9	950.6
27.5°	895.5	899.5	910.3	927.7	933.1
30°	867.3	874.0	887.5	904.9	911.6
32.5°	840.5	847.2	863.3	882.1	887.5
35°	806.9	816.3	835.1	856.6	863.3
37.5°	774.7	784.1	806.9	831.1	839.1
40°	741.1	751.9	776.0	804.2	815.0
42.5°	704.9	719.6	746.5	777.4	789.4
45°	668.6	682.0	715.6	750.5	763.9
47.5°	629.7	645.8	682.0	723.7	739.8
50°	588.1	608.2	649.8	695.5	712.9
52.5°	546.4	569.3	616.3	667.3	686.1
55°	506.2	527.6	584.0	639.1	659.2
57.5°	461.9	488.7	550.5	609.5	629.7
60°	416.2	445.7	516.9	578.7	600.1
62.5°	370.6	404.1	484.7	546.4	569.3
65°	324.9	362.5	447.1	512.9	535.7
67.5°	280.6	322.2	412.2	478.0	500.8
70°	229.6	281.9	374.6	439.0	461.9
72.5°	182.6	243.0	338.3	398.8	418.9
75°	141.0	205.4	298.1	353.1	361.2
77.5°	103.4	167.8	256.4	275.2	276.6
80°	69.8	134.3	196.0	193.3	196.0
82.5°	45.6	100.7	123.5	138.3	139.6
85°	26.9	59.1	72.5	80.6	81.9
87.5°	13.4	20.1	25.5	26.9	29.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)