

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: P310098

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-RDP-CA125-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: P310098
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-L82765-RDP-CA125-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.125" ACRYLIC SHEET
Light Source: (336) 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: 2792.0 lumens
Efficiency: N/A
Efficacy: 81.2 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

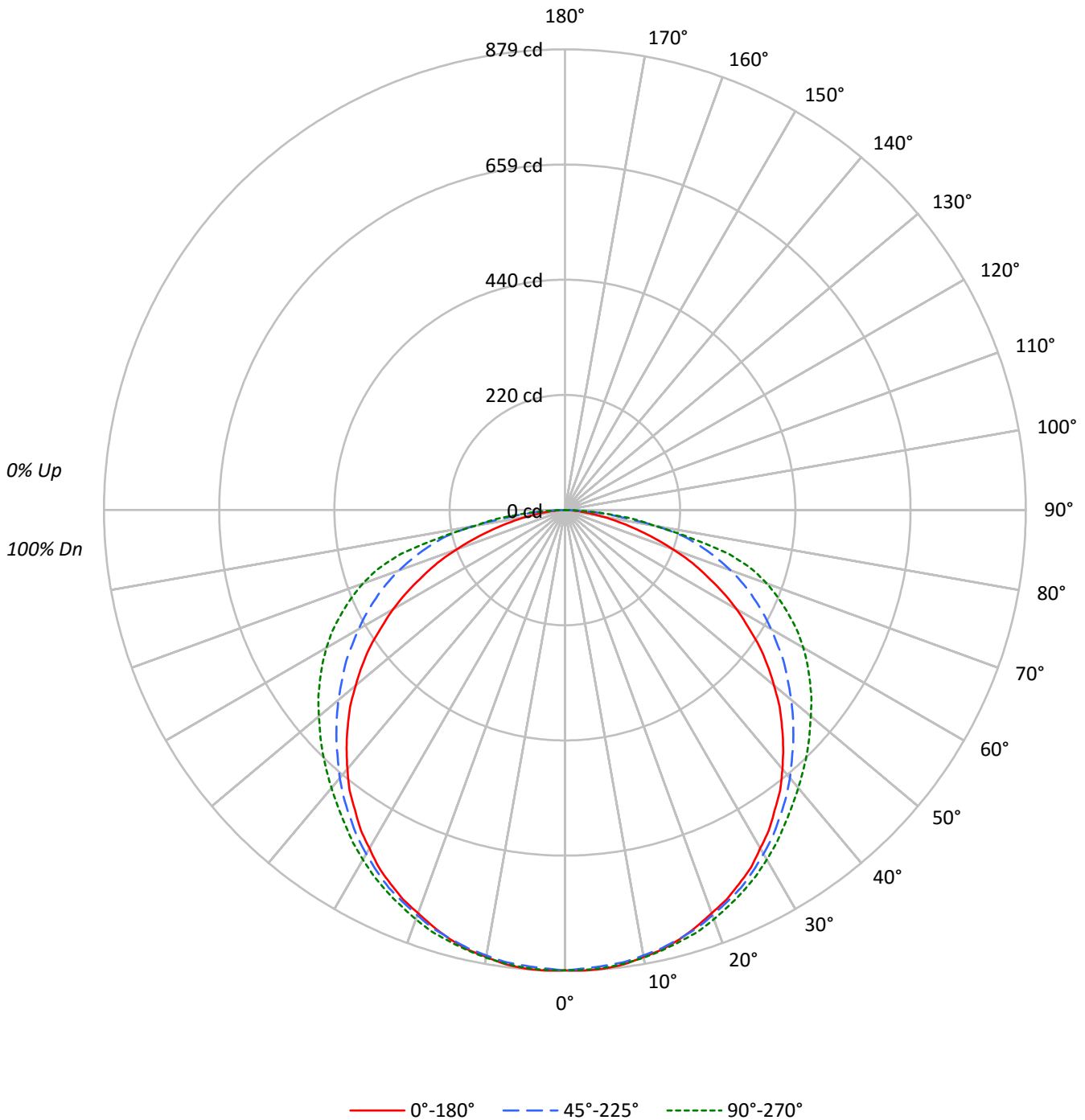
Input Watts (W): 34.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1181	1181	1181
5°	1186	1178	1184
10°	1182	1179	1184
15°	1181	1179	1186
20°	1172	1178	1190
25°	1168	1180	1192
30°	1158	1177	1196
35°	1146	1174	1201
40°	1133	1172	1216
45°	1115	1173	1244
50°	1090	1180	1281
55°	1062	1199	1339
60°	1017	1222	1412
65°	952	1266	1499
70°	866	1324	1613
75°	735	1397	1685
80°	580	1406	1363
85°	428	1068	1198



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.3	3.0
10°-20°	239.7	8.6
20°-30°	366.6	13.1
30°-40°	448.1	16.0
40°-50°	477.6	17.1
50°-60°	456.6	16.4
60°-70°	386.8	13.9
70°-80°	260.0	9.3
80°-90°	73.3	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°	689.5	24.7
0°-40°	1137.6	40.7
0°-60°	2071.9	74.2
0°-90°	2792.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2792.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	878	878	878	878	878	
5°	878	877	872	877	877	83
15°	848	848	846	853	852	239
25°	787	789	795	802	803	363
35°	698	704	715	728	731	437
45°	586	596	616	643	654	452
55°	453	470	511	551	571	403
65°	299	330	398	450	471	297
75°	141	192	269	314	324	151
85°	28	57	69	75	78	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	878.0	878.0	878.0	878.0	878.0
2.5°	879.4	879.4	875.2	878.0	878.0
5°	878.0	876.6	872.5	876.6	876.6
7.5°	873.8	872.5	869.7	873.8	872.5
10°	865.5	865.5	862.8	866.9	866.9
12.5°	858.6	857.2	855.8	861.4	860.0
15°	847.5	847.5	846.2	853.1	851.7
17.5°	833.7	835.1	836.5	842.0	843.4
20°	818.5	821.2	822.6	830.9	830.9
22.5°	804.6	806.0	808.8	817.1	817.1
25°	786.6	789.4	794.9	801.8	803.2
27.5°	768.6	770.0	776.9	786.6	788.0
30°	745.1	749.2	757.5	768.6	770.0
32.5°	724.3	728.4	738.1	749.2	752.0
35°	698.0	703.5	714.6	728.4	731.2
37.5°	674.4	678.6	692.4	707.7	711.8
40°	645.3	653.7	667.5	685.5	692.4
42.5°	616.3	624.6	641.2	664.7	673.0
45°	585.8	595.5	616.3	642.6	653.7
47.5°	555.3	566.4	590.0	620.4	632.9
50°	520.7	534.6	563.6	598.3	612.1
52.5°	487.5	504.1	535.9	574.7	592.7
55°	452.9	469.5	511.0	551.2	570.6
57.5°	414.1	436.2	481.9	527.6	548.4
60°	378.1	398.8	454.2	504.1	524.9
62.5°	339.3	367.0	426.5	479.2	499.9
65°	299.1	329.6	397.5	450.1	470.9
67.5°	263.1	296.4	368.4	421.0	441.8
70°	220.2	261.7	336.5	389.1	409.9
72.5°	180.0	225.7	303.3	354.5	373.9
75°	141.3	192.5	268.7	314.4	324.1
77.5°	105.2	159.3	232.7	252.0	245.1
80°	74.8	127.4	181.4	171.7	175.9
82.5°	48.5	96.9	112.2	127.4	131.6
85°	27.7	56.8	69.2	74.8	77.6
87.5°	12.5	20.8	27.7	27.7	26.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)