

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: P310593

Luminaire Tested: **24FCZ2-35HE-UNV-L82765-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: P310593
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-35HE-UNV-L82765-CA125-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 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: 3257.0 lumens
Efficiency: N/A
Efficacy: 122.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

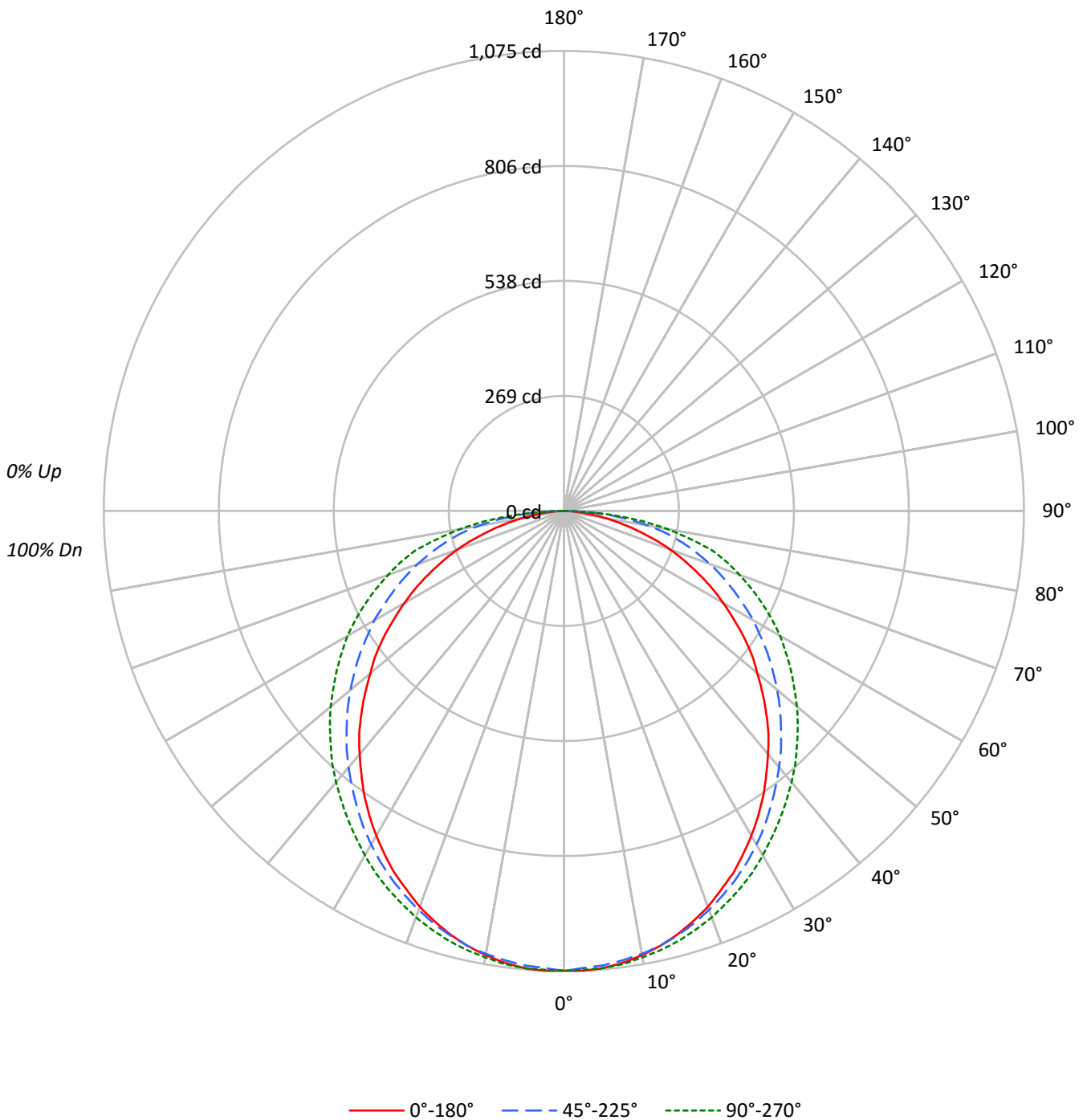
Input Watts (W): 26.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	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	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1445	1445	1445
5°	1448	1439	1448
10°	1439	1435	1447
15°	1427	1430	1448
20°	1410	1420	1447
25°	1388	1410	1445
30°	1362	1399	1444
35°	1335	1384	1445
40°	1304	1374	1454
45°	1273	1365	1466
50°	1235	1362	1488
55°	1204	1364	1518
60°	1157	1375	1570
65°	1104	1390	1627
70°	1046	1433	1718
75°	933	1494	1876
80°	796	1582	1918
85°	567	1568	1836



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.7	3.1
10°-20°	290.7	8.9
20°-30°	439.0	13.5
30°-40°	529.1	16.2
40°-50°	555.5	17.1
50°-60°	519.7	16.0
60°-70°	429.2	13.2
70°-80°	292.4	9.0
80°-90°	99.7	3.1
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°	831.3	25.5
0°-40°	1360.5	41.8
0°-60°	2435.6	74.8
0°-90°	3257.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3257.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1074	1074	1074	1074	1074	
5°	1072	1071	1066	1072	1072	102
15°	1024	1026	1027	1037	1040	289
25°	935	939	950	968	974	430
35°	813	821	843	871	880	508
45°	669	683	718	756	770	516
55°	513	534	581	629	647	458
65°	347	376	437	492	511	344
75°	179	220	287	342	361	191
85°	37	72	102	114	119	46
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1074.1	1074.1	1074.1	1074.1	1074.1
2.5°	1075.2	1074.1	1068.7	1074.1	1073.0
5°	1072.0	1070.9	1065.5	1072.0	1072.0
7.5°	1064.4	1064.4	1059.0	1066.6	1067.6
10°	1053.6	1053.6	1050.4	1059.0	1059.0
12.5°	1040.6	1040.6	1040.6	1049.3	1050.4
15°	1024.4	1025.5	1026.6	1037.4	1039.6
17.5°	1005.0	1007.1	1010.4	1023.3	1025.5
20°	984.4	986.6	992.0	1007.1	1010.4
22.5°	958.5	963.9	971.5	988.8	992.0
25°	934.7	939.1	949.9	968.2	973.6
27.5°	905.6	912.0	926.1	945.5	953.1
30°	876.4	882.9	900.2	922.8	929.3
32.5°	845.0	854.8	873.1	896.9	904.5
35°	812.6	821.3	842.9	871.0	879.6
37.5°	777.0	788.8	812.6	842.9	853.7
40°	742.4	755.3	782.4	814.8	827.8
42.5°	707.8	720.8	751.0	787.8	800.7
45°	668.9	682.9	717.5	756.4	770.5
47.5°	630.0	647.3	685.1	726.2	741.3
50°	590.0	609.5	650.5	693.8	711.0
52.5°	554.4	572.7	615.9	662.4	678.6
55°	513.3	533.8	581.4	628.9	647.3
57.5°	471.1	493.8	544.6	596.5	614.9
60°	430.1	454.9	511.1	563.0	583.5
62.5°	390.1	415.0	473.3	527.3	547.9
65°	346.9	376.1	436.6	491.7	511.1
67.5°	305.8	337.2	400.9	454.9	474.4
70°	265.8	296.1	364.2	417.1	436.6
72.5°	222.6	257.2	325.3	380.4	400.9
75°	179.4	220.4	287.4	341.5	360.9
77.5°	139.4	181.5	248.5	292.8	302.6
80°	102.7	145.9	204.2	235.6	247.5
82.5°	65.9	109.1	155.6	178.3	188.0
85°	36.7	72.4	101.6	114.5	118.9
87.5°	15.1	31.3	41.1	46.5	46.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)