

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: P310588

Luminaire Tested: **24FCZ2-35HE-UNV-L82765-CA08-W2A-U-6500K**

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: P310588
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-CA08-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 6500K 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: 3363.0 lumens
Efficiency: N/A
Efficacy: 123.6 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

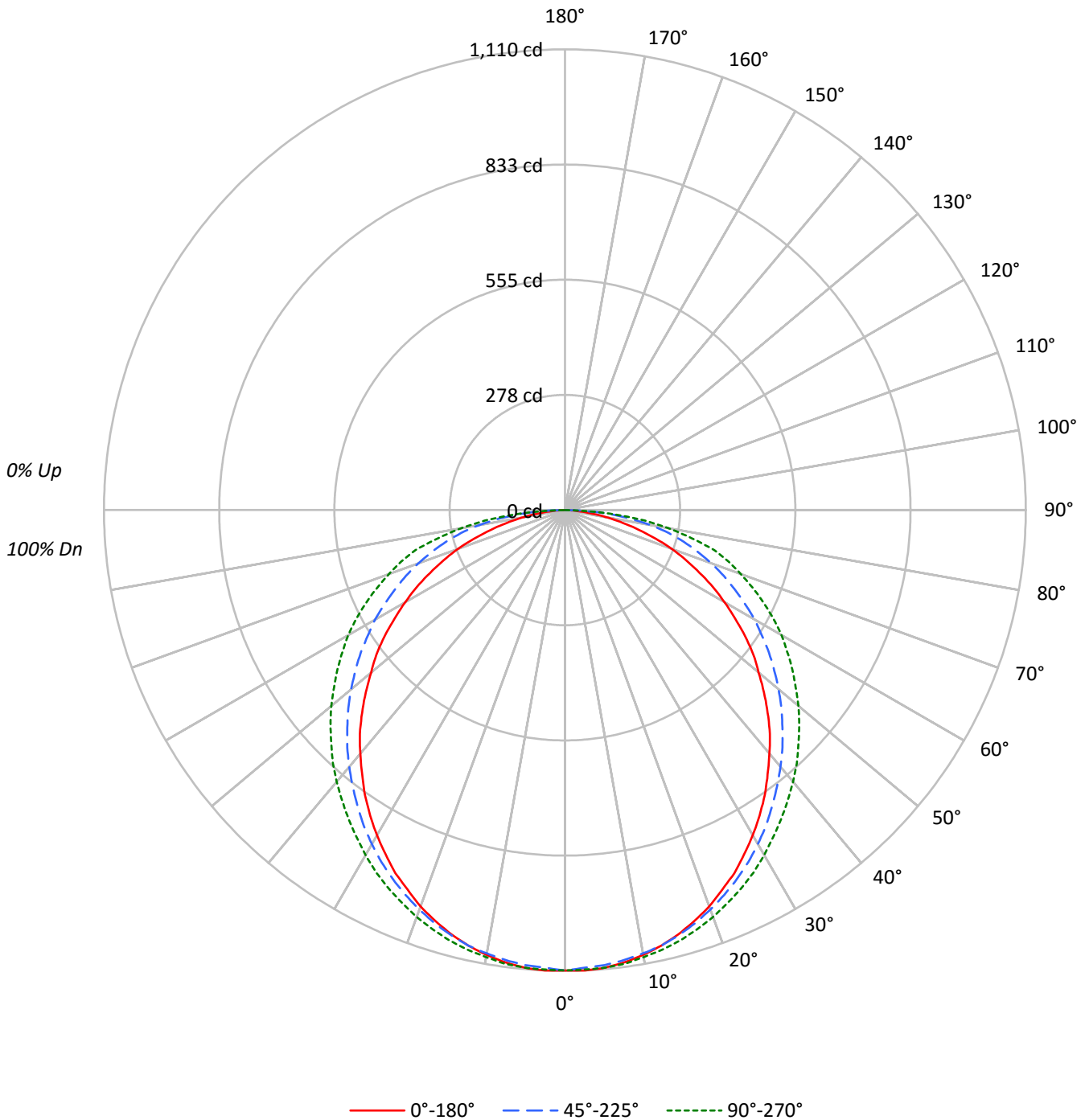
Input Watts (W): 27.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1492	1492	1492
5°	1495	1486	1495
10°	1486	1482	1494
15°	1473	1477	1495
20°	1455	1467	1494
25°	1433	1456	1492
30°	1406	1444	1491
35°	1378	1430	1492
40°	1346	1419	1501
45°	1314	1410	1514
50°	1275	1406	1537
55°	1243	1408	1568
60°	1195	1420	1621
65°	1140	1435	1680
70°	1080	1479	1773
75°	963	1543	1938
80°	821	1634	1980
85°	585	1619	1894



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.0	3.1
10°-20°	300.1	8.9
20°-30°	453.3	13.5
30°-40°	546.3	16.2
40°-50°	573.6	17.1
50°-60°	536.6	16.0
60°-70°	443.1	13.2
70°-80°	302.0	9.0
80°-90°	103.0	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°	858.4	25.5
0°-40°	1404.7	41.8
0°-60°	2514.9	74.8
0°-90°	3363.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3363.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1109	1109	1109	1109	1109	
5°	1107	1106	1100	1107	1107	105
15°	1058	1059	1060	1071	1073	298
25°	965	970	981	1000	1005	444
35°	839	848	870	899	908	524
45°	691	705	741	781	796	533
55°	530	551	600	649	668	473
65°	358	388	451	508	528	355
75°	185	228	297	353	373	198
85°	38	75	105	118	123	47
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1109.1	1109.1	1109.1	1109.1	1109.1
2.5°	1110.2	1109.1	1103.5	1109.1	1108.0
5°	1106.9	1105.7	1100.2	1106.9	1106.9
7.5°	1099.0	1099.0	1093.5	1101.3	1102.4
10°	1087.9	1087.9	1084.5	1093.5	1093.5
12.5°	1074.5	1074.5	1074.5	1083.4	1084.5
15°	1057.8	1058.9	1060.0	1071.2	1073.4
17.5°	1037.7	1039.9	1043.3	1056.6	1058.9
20°	1016.5	1018.7	1024.3	1039.9	1043.3
22.5°	989.7	995.3	1003.1	1020.9	1024.3
25°	965.2	969.6	980.8	999.7	1005.3
27.5°	935.0	941.7	956.2	976.3	984.1
30°	904.9	911.6	929.4	952.9	959.6
32.5°	872.5	882.6	901.6	926.1	933.9
35°	839.1	848.0	870.3	899.3	908.2
37.5°	802.2	814.5	839.1	870.3	881.5
40°	766.5	779.9	807.8	841.3	854.7
42.5°	730.8	744.2	775.5	813.4	826.8
45°	690.7	705.2	740.9	781.0	795.6
47.5°	650.5	668.4	707.4	749.8	765.4
50°	609.2	629.3	671.7	716.3	734.2
52.5°	572.4	591.4	636.0	684.0	700.7
55°	530.0	551.2	600.3	649.4	668.4
57.5°	486.5	509.9	562.4	615.9	634.9
60°	444.1	469.7	527.8	581.3	602.5
62.5°	402.8	428.5	488.7	544.5	565.7
65°	358.2	388.3	450.8	507.7	527.8
67.5°	315.8	348.1	414.0	469.7	489.8
70°	274.5	305.7	376.0	430.7	450.8
72.5°	229.9	265.6	335.9	392.8	414.0
75°	185.2	227.6	296.8	352.6	372.7
77.5°	143.9	187.5	256.6	302.4	312.4
80°	106.0	150.6	210.9	243.2	255.5
82.5°	68.1	112.7	160.7	184.1	194.1
85°	37.9	74.8	104.9	118.3	122.7
87.5°	15.6	32.4	42.4	48.0	48.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)