

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: P309415

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-HRP-CA08-W2A-U-5000K**

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: P309415
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: 24FCZ2-45HE-UNV-L82765-HRP-CA08-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 5000K 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: 3203.0 lumens
Efficiency: N/A
Efficacy: 92.6 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

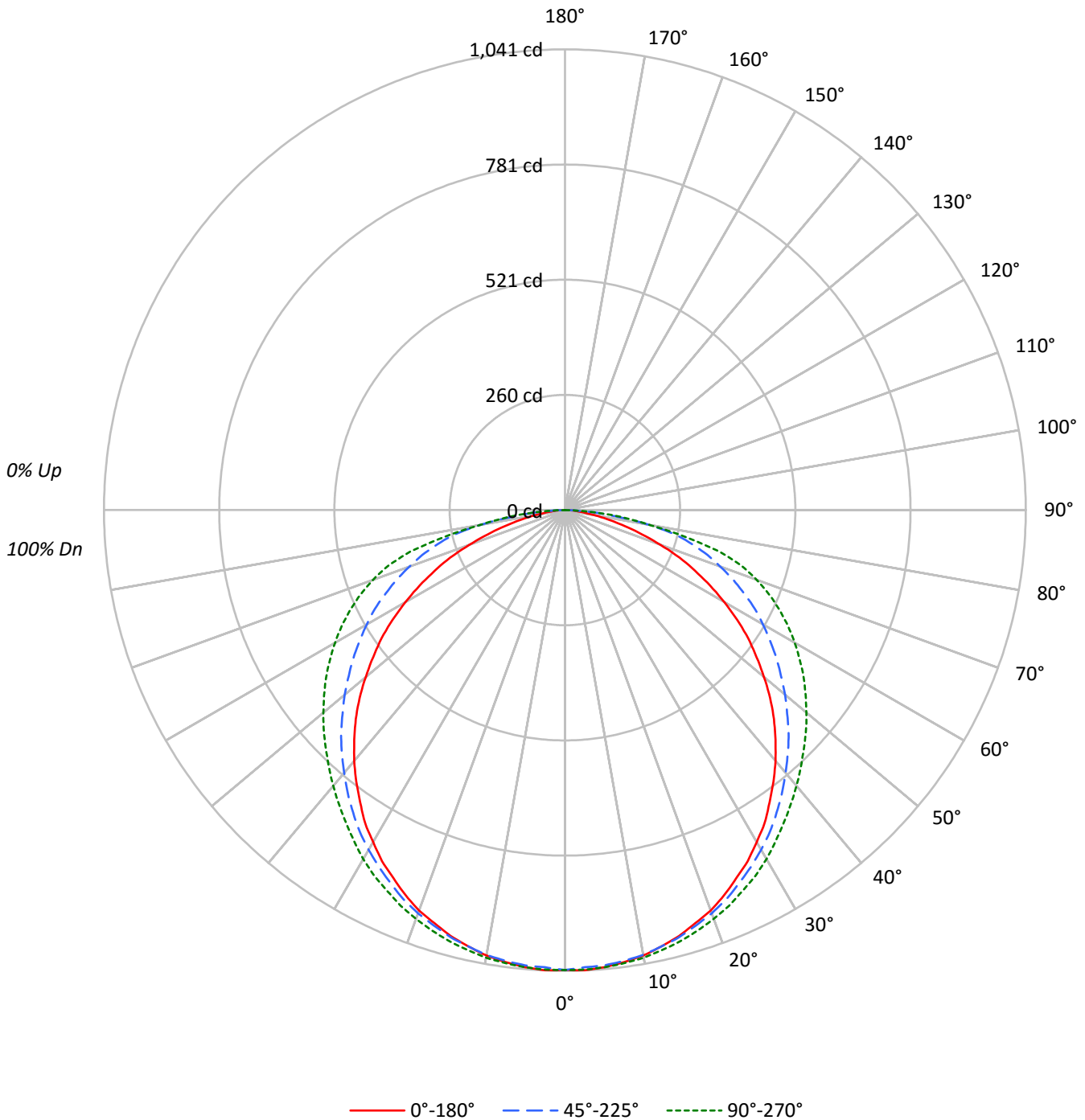
Input Watts (W): 34.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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°	1398	1398	1398
5°	1400	1395	1400
10°	1396	1394	1403
15°	1388	1392	1405
20°	1379	1388	1407
25°	1362	1382	1409
30°	1346	1377	1415
35°	1324	1370	1416
40°	1300	1361	1430
45°	1271	1360	1452
50°	1229	1358	1490
55°	1186	1368	1544
60°	1119	1389	1613
65°	1033	1422	1703
70°	902	1472	1815
75°	732	1548	1875
80°	540	1517	1517
85°	414	1118	1263



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.4	3.1
10°-20°	282.7	8.8
20°-30°	430.4	13.4
30°-40°	522.6	16.3
40°-50°	552.1	17.2
50°-60°	521.0	16.3
60°-70°	433.2	13.5
70°-80°	285.0	8.9
80°-90°	77.7	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°	811.5	25.3
0°-40°	1334.1	41.7
0°-60°	2407.2	75.2
0°-90°	3203.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3203.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1039	1039	1039	1039	1039	
5°	1036	1036	1032	1036	1036	98
15°	996	998	999	1008	1008	281
25°	917	923	931	947	949	423
35°	806	815	834	856	862	504
45°	668	681	715	750	763	514
55°	506	527	583	638	658	450
65°	324	362	446	512	535	321
75°	141	205	298	353	361	152
85°	27	59	72	80	82	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1039.2	1039.2	1039.2	1039.2	1039.2
2.5°	1040.6	1039.2	1033.9	1039.2	1039.2
5°	1036.5	1036.5	1032.5	1036.5	1036.5
7.5°	1029.8	1029.8	1027.1	1032.5	1032.5
10°	1021.8	1021.8	1020.4	1027.1	1027.1
12.5°	1009.7	1011.1	1009.7	1017.8	1017.8
15°	996.3	997.6	999.0	1008.4	1008.4
17.5°	978.9	981.6	984.2	995.0	996.3
20°	962.8	964.1	969.5	981.6	982.9
22.5°	941.3	945.4	952.1	964.1	968.1
25°	917.2	922.6	930.6	946.7	949.4
27.5°	894.4	898.4	909.1	926.6	931.9
30°	866.2	872.9	886.4	903.8	910.5
32.5°	839.4	846.1	862.2	881.0	886.4
35°	805.9	815.3	834.1	855.5	862.2
37.5°	773.7	783.1	805.9	830.0	838.1
40°	740.2	750.9	775.1	803.2	813.9
42.5°	704.0	718.7	745.6	776.4	788.5
45°	667.8	681.2	714.7	749.6	763.0
47.5°	628.9	645.0	681.2	722.8	738.8
50°	587.3	607.4	649.0	694.6	712.0
52.5°	545.8	568.6	615.5	666.4	685.2
55°	505.5	527.0	583.3	638.3	658.4
57.5°	461.3	488.1	549.8	608.8	628.9
60°	415.7	445.2	516.3	577.9	599.4
62.5°	370.1	403.6	484.1	545.8	568.6
65°	324.5	362.0	446.5	512.2	535.0
67.5°	280.3	321.8	411.7	477.4	500.2
70°	229.3	281.6	374.1	438.5	461.3
72.5°	182.4	242.7	337.9	398.3	418.4
75°	140.8	205.2	297.7	352.7	360.7
77.5°	103.3	167.6	256.1	274.9	276.2
80°	69.7	134.1	195.8	193.1	195.8
82.5°	45.6	100.6	123.4	138.1	139.5
85°	26.8	59.0	72.4	80.5	81.8
87.5°	13.4	20.1	25.5	26.8	29.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)