

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: P309418

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-HRP-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: P309418
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-6500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. 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: 3251.0 lumens
Efficiency: N/A
Efficacy: 92.1 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

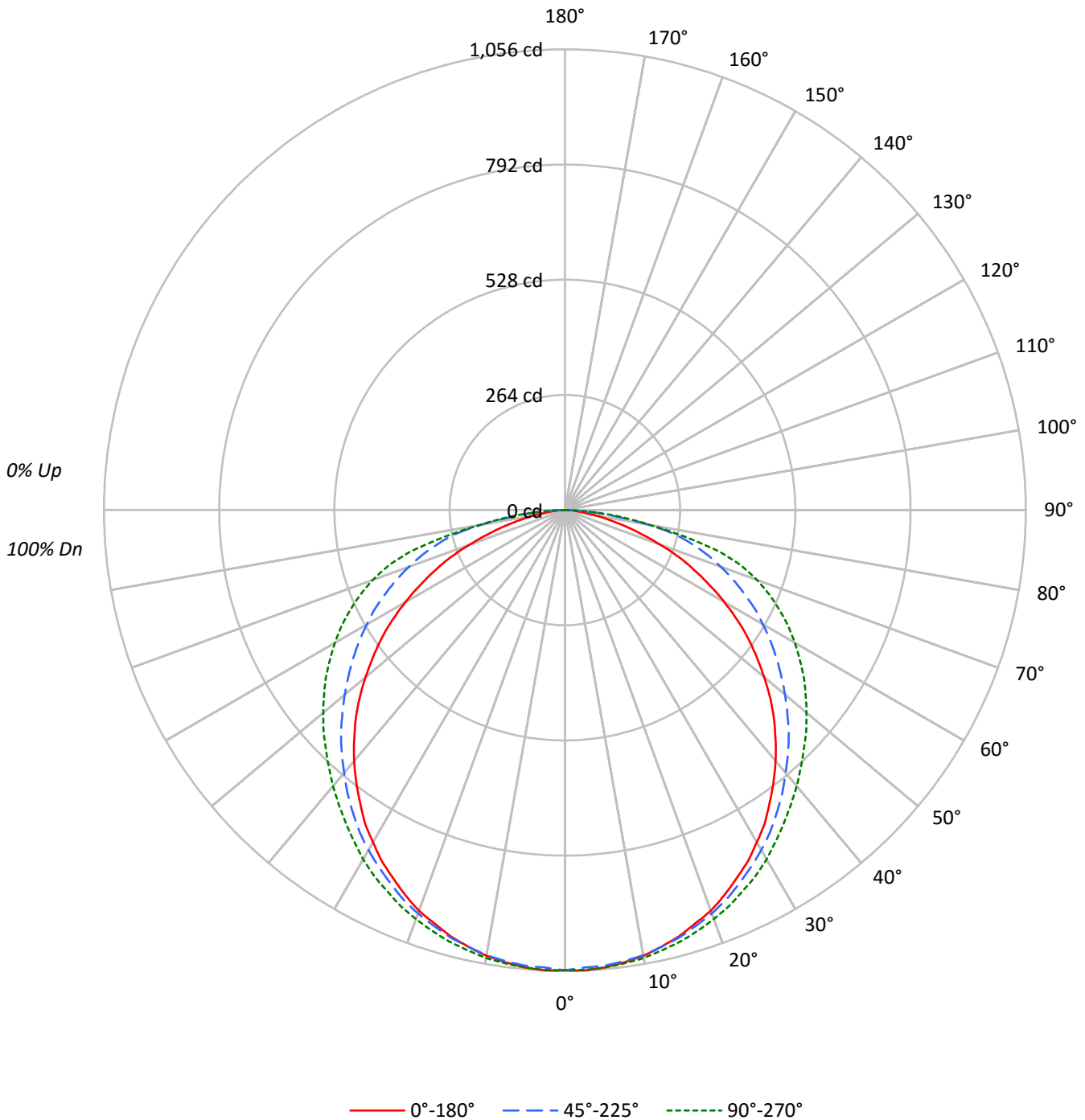
Input Watts (W): 35.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1419	1419	1419
5°	1421	1415	1421
10°	1417	1415	1424
15°	1409	1412	1426
20°	1399	1409	1428
25°	1382	1402	1431
30°	1366	1398	1436
35°	1344	1391	1437
40°	1320	1382	1451
45°	1290	1380	1474
50°	1248	1379	1513
55°	1204	1389	1568
60°	1135	1410	1637
65°	1049	1443	1729
70°	915	1494	1842
75°	743	1570	1903
80°	549	1540	1540
85°	420	1135	1281



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.9	3.1
10°-20°	286.9	8.8
20°-30°	436.8	13.4
30°-40°	530.4	16.3
40°-50°	560.4	17.2
50°-60°	528.8	16.3
60°-70°	439.7	13.5
70°-80°	289.2	8.9
80°-90°	78.8	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°	823.7	25.3
0°-40°	1354.1	41.7
0°-60°	2443.2	75.2
0°-90°	3251.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3251.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1055	1055	1055	1055	1055	
5°	1052	1052	1048	1052	1052	100
15°	1011	1013	1014	1024	1024	285
25°	931	936	944	961	964	429
35°	818	828	847	868	875	512
45°	678	691	725	761	774	522
55°	513	535	592	648	668	457
65°	329	368	453	520	543	326
75°	143	208	302	358	366	154
85°	27	60	74	82	83	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1054.8	1054.8	1054.8	1054.8	1054.8
2.5°	1056.2	1054.8	1049.3	1054.8	1054.8
5°	1052.1	1052.1	1048.0	1052.1	1052.1
7.5°	1045.3	1045.3	1042.5	1048.0	1048.0
10°	1037.1	1037.1	1035.7	1042.5	1042.5
12.5°	1024.8	1026.2	1024.8	1033.0	1033.0
15°	1011.2	1012.6	1014.0	1023.5	1023.5
17.5°	993.5	996.3	999.0	1009.9	1011.2
20°	977.2	978.6	984.0	996.3	997.6
22.5°	955.4	959.5	966.3	978.6	982.7
25°	930.9	936.4	944.5	960.9	963.6
27.5°	907.8	911.9	922.8	940.5	945.9
30°	879.2	886.0	899.6	917.3	924.1
32.5°	852.0	858.8	875.1	894.2	899.6
35°	818.0	827.5	846.6	868.3	875.1
37.5°	785.3	794.8	818.0	842.5	850.6
40°	751.3	762.2	786.7	815.3	826.1
42.5°	714.5	729.5	756.7	788.0	800.3
45°	677.8	691.4	725.4	760.8	774.4
47.5°	638.3	654.6	691.4	733.6	749.9
50°	596.1	616.5	658.7	705.0	722.7
52.5°	553.9	577.1	624.7	676.4	695.5
55°	513.1	534.9	592.0	647.8	668.3
57.5°	468.2	495.4	558.0	617.9	638.3
60°	421.9	451.9	524.0	586.6	608.4
62.5°	375.6	409.7	491.3	553.9	577.1
65°	329.4	367.5	453.2	519.9	543.0
67.5°	284.5	326.6	417.8	484.5	507.7
70°	232.7	285.8	379.7	445.1	468.2
72.5°	185.1	246.3	343.0	404.2	424.6
75°	142.9	208.2	302.1	357.9	366.1
77.5°	104.8	170.1	260.0	279.0	280.4
80°	70.8	136.1	198.7	196.0	198.7
82.5°	46.3	102.1	125.2	140.2	141.5
85°	27.2	59.9	73.5	81.7	83.0
87.5°	13.6	20.4	25.9	27.2	29.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)