

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: P309416

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-HRP-CA08-W2A-U-5500K**

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: P309416  
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-5500K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET  
Light Source: (336) 5500K 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**

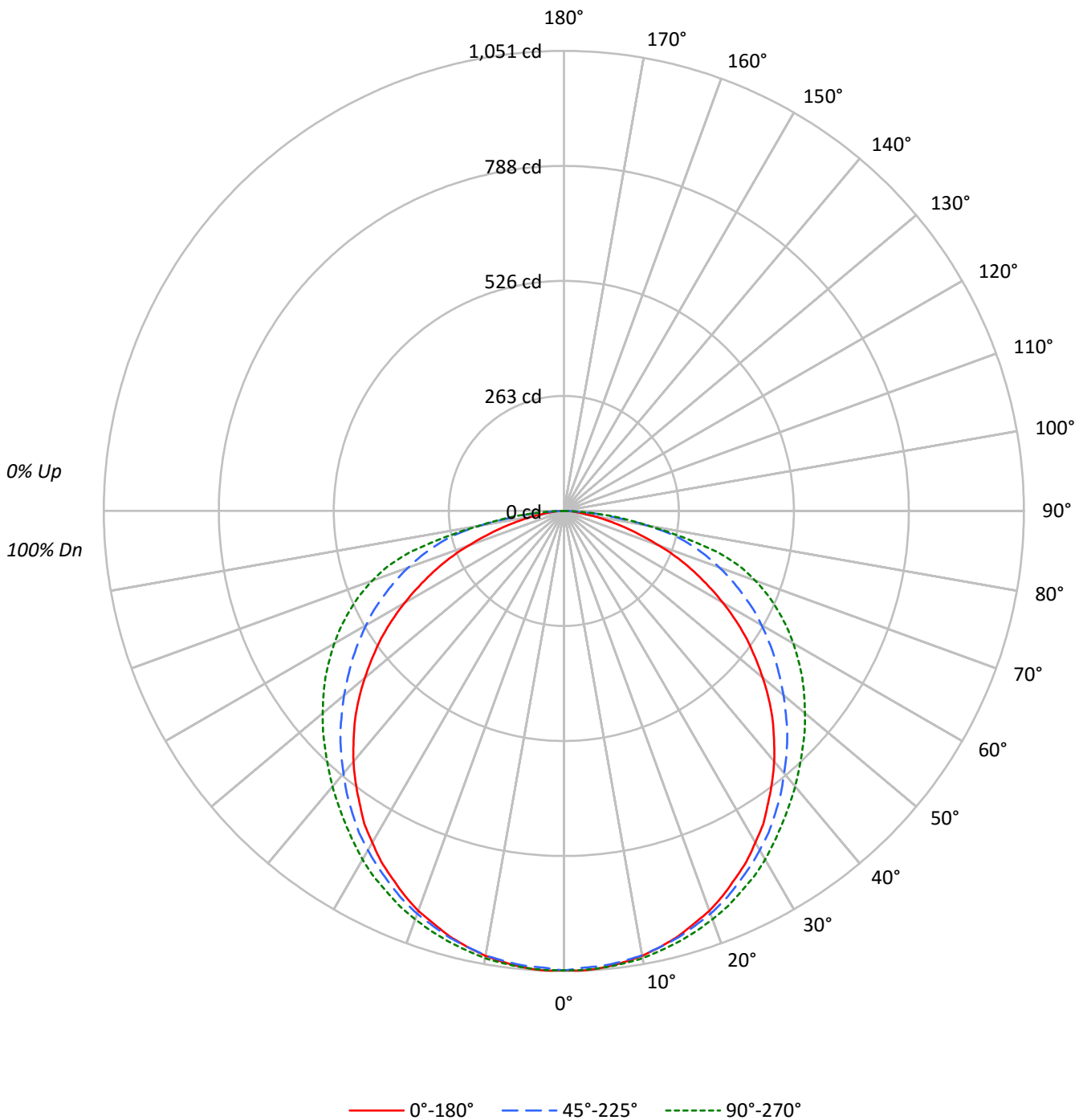
Lumens per Lamp: N/A  
Luminaire Lumens: 3235.0 lumens  
Efficiency: N/A  
Efficacy: 93.2 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 34.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
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°	1412	1412	1412
5°	1414	1408	1414
10°	1410	1408	1417
15°	1402	1405	1419
20°	1392	1402	1421
25°	1375	1395	1424
30°	1359	1391	1429
35°	1337	1384	1430
40°	1313	1375	1444
45°	1283	1374	1466
50°	1242	1372	1505
55°	1198	1382	1560
60°	1130	1403	1629
65°	1043	1436	1720
70°	911	1487	1833
75°	739	1563	1894
80°	545	1532	1532
85°	418	1129	1275



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	99.4	3.1
10°-20°	285.5	8.8
20°-30°	434.7	13.4
30°-40°	527.8	16.3
40°-50°	557.6	17.2
50°-60°	526.2	16.3
60°-70°	437.5	13.5
70°-80°	287.8	8.9
80°-90°	78.4	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°	819.6	25.3
0°-40°	1347.4	41.7
0°-60°	2431.2	75.2
0°-90°	3235.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3235.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1050	1050	1050	1050	1050	
5°	1047	1047	1043	1047	1047	99
15°	1006	1008	1009	1018	1018	284
25°	926	932	940	956	959	427
35°	814	823	842	864	871	510
45°	674	688	722	757	771	519
55°	511	532	589	645	665	455
65°	328	366	451	517	540	324
75°	142	207	301	356	364	153
85°	27	60	73	81	83	33
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1049.6	1049.6	1049.6	1049.6	1049.6
2.5°	1051.0	1049.6	1044.2	1049.6	1049.6
5°	1046.9	1046.9	1042.8	1046.9	1046.9
7.5°	1040.1	1040.1	1037.4	1042.8	1042.8
10°	1032.0	1032.0	1030.6	1037.4	1037.4
12.5°	1019.8	1021.2	1019.8	1027.9	1027.9
15°	1006.3	1007.6	1009.0	1018.4	1018.4
17.5°	988.7	991.4	994.1	1004.9	1006.3
20°	972.4	973.8	979.2	991.4	992.7
22.5°	950.7	954.8	961.6	973.8	977.8
25°	926.4	931.8	939.9	956.2	958.9
27.5°	903.3	907.4	918.2	935.8	941.3
30°	874.9	881.7	895.2	912.8	919.6
32.5°	847.8	854.6	870.8	889.8	895.2
35°	813.9	823.4	842.4	864.1	870.8
37.5°	781.4	790.9	813.9	838.3	846.5
40°	747.6	758.4	782.8	811.2	822.1
42.5°	711.0	725.9	753.0	784.2	796.3
45°	674.5	688.0	721.9	757.1	770.6
47.5°	635.2	651.4	688.0	730.0	746.2
50°	593.2	613.5	655.5	701.5	719.1
52.5°	551.2	574.2	621.6	673.1	692.1
55°	510.6	532.2	589.1	644.7	665.0
57.5°	465.9	493.0	555.3	614.9	635.2
60°	419.8	449.6	521.4	583.7	605.4
62.5°	373.8	407.7	488.9	551.2	574.2
65°	327.7	365.7	451.0	517.4	540.4
67.5°	283.1	325.0	415.8	482.1	505.2
70°	231.6	284.4	377.9	442.9	465.9
72.5°	184.2	245.1	341.3	402.2	422.5
75°	142.2	207.2	300.7	356.2	364.3
77.5°	104.3	169.3	258.7	277.6	279.0
80°	70.4	135.4	197.7	195.0	197.7
82.5°	46.0	101.6	124.6	139.5	140.8
85°	27.1	59.6	73.1	81.3	82.6
87.5°	13.5	20.3	25.7	27.1	29.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)