

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: P309233

Luminaire Tested: **24FCZ2-35HE-UNV-L82765-HRP-CA08-W2A-U-4000K**

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: P309233  
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: 24FCZ2-35HE-UNV-L82765-HRP-CA08-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET  
Light Source: (336) 4000K 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**

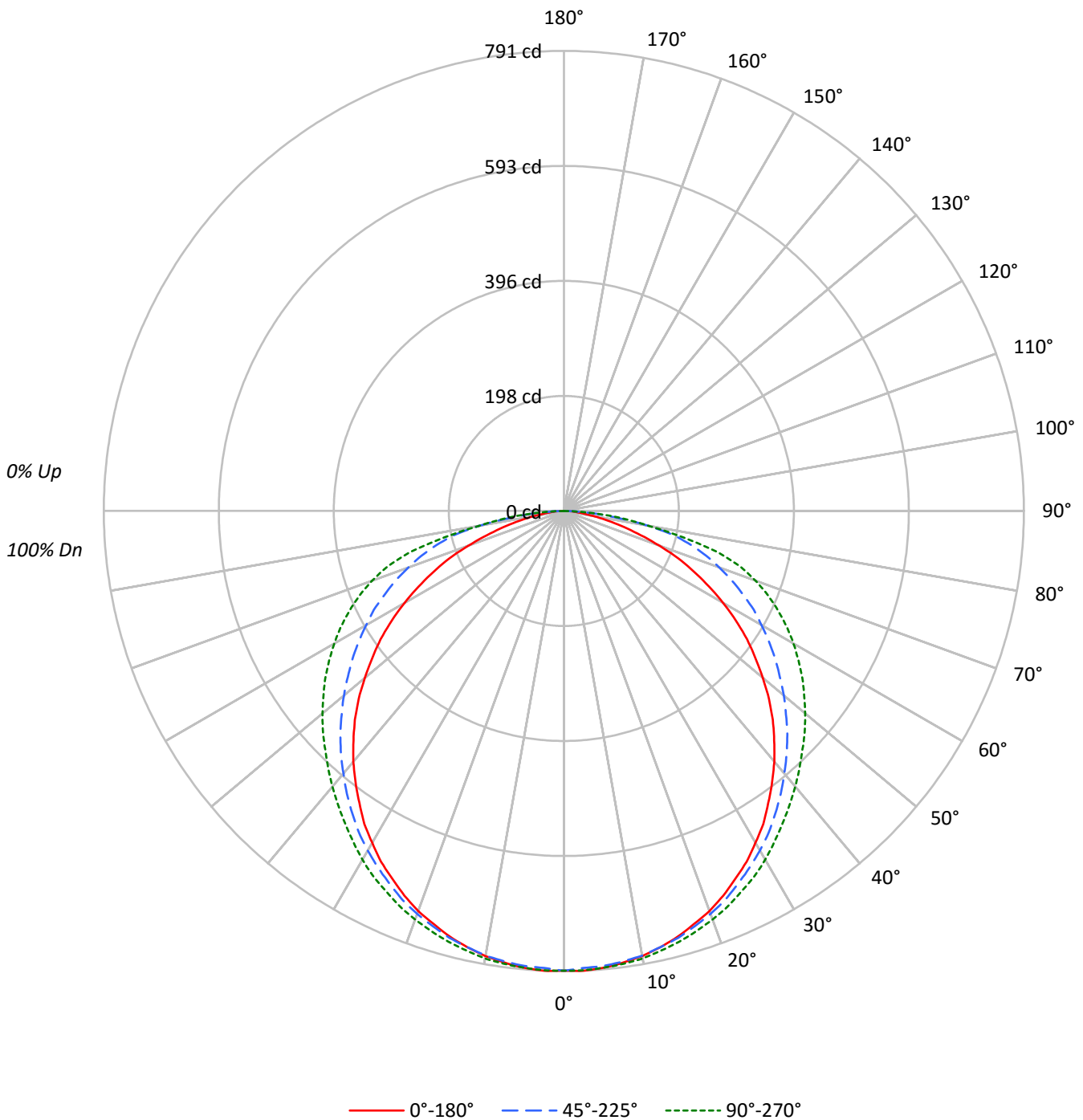
Lumens per Lamp: N/A  
Luminaire Lumens: 2436.0 lumens  
Efficiency: N/A  
Efficacy: 92.6 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 26.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82				82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67				67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56				56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48				48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41				41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36				36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31				31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28				28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25				25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23				23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1063	1063	1063
5°	1065	1061	1065
10°	1062	1060	1067
15°	1055	1058	1068
20°	1048	1056	1070
25°	1036	1051	1072
30°	1024	1047	1076
35°	1007	1042	1077
40°	989	1035	1087
45°	966	1034	1104
50°	935	1033	1133
55°	902	1041	1175
60°	851	1056	1227
65°	786	1081	1295
70°	686	1119	1380
75°	557	1177	1426
80°	411	1154	1154
85°	315	851	960



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	74.9	3.1
10°-20°	215.0	8.8
20°-30°	327.3	13.4
30°-40°	397.4	16.3
40°-50°	419.9	17.2
50°-60°	396.2	16.3
60°-70°	329.5	13.5
70°-80°	216.7	8.9
80°-90°	59.1	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°	617.2	25.3
0°-40°	1014.6	41.7
0°-60°	1830.7	75.2
0°-90°	2436.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2436.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	790	790	790	790	790	
5°	788	788	785	788	788	75
15°	758	759	760	767	767	214
25°	698	702	708	720	722	322
35°	613	620	634	651	656	384
45°	508	518	544	570	580	391
55°	384	401	444	485	501	342
65°	247	275	340	390	407	244
75°	107	156	226	268	274	115
85°	20	45	55	61	62	25
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	790.4	790.4	790.4	790.4	790.4
2.5°	791.4	790.4	786.3	790.4	790.4
5°	788.3	788.3	785.3	788.3	788.3
7.5°	783.2	783.2	781.2	785.3	785.3
10°	777.1	777.1	776.1	781.2	781.2
12.5°	767.9	768.9	767.9	774.0	774.0
15°	757.7	758.7	759.8	766.9	766.9
17.5°	744.5	746.5	748.5	756.7	757.7
20°	732.2	733.3	737.3	746.5	747.5
22.5°	715.9	719.0	724.1	733.3	736.3
25°	697.6	701.6	707.8	720.0	722.0
27.5°	680.2	683.3	691.4	704.7	708.8
30°	658.8	663.9	674.1	687.4	692.5
32.5°	638.4	643.5	655.7	670.0	674.1
35°	612.9	620.1	634.3	650.6	655.7
37.5°	588.4	595.6	612.9	631.3	637.4
40°	562.9	571.1	589.5	610.9	619.0
42.5°	535.4	546.6	567.0	590.5	599.7
45°	507.9	518.1	543.6	570.1	580.3
47.5°	478.3	490.5	518.1	549.7	561.9
50°	446.7	462.0	493.6	528.3	541.5
52.5°	415.1	432.4	468.1	506.9	521.1
55°	384.5	400.8	443.6	485.4	500.7
57.5°	350.8	371.2	418.1	463.0	478.3
60°	316.1	338.6	392.6	439.5	455.9
62.5°	281.5	307.0	368.2	415.1	432.4
65°	246.8	275.4	339.6	389.6	406.9
67.5°	213.1	244.8	313.1	363.1	380.4
70°	174.4	214.2	284.5	333.5	350.8
72.5°	138.7	184.6	257.0	302.9	318.2
75°	107.1	156.0	226.4	268.2	274.3
77.5°	78.5	127.5	194.8	209.1	210.1
80°	53.0	102.0	148.9	146.9	148.9
82.5°	34.7	76.5	93.8	105.0	106.1
85°	20.4	44.9	55.1	61.2	62.2
87.5°	10.2	15.3	19.4	20.4	22.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)