

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: P313093

Luminaire Tested: **24FCZ2-35HE-UNV-L83050-HRP-CA08-W2A-U-4500K**

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: P313093  
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-L83050-HRP-CA08-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET  
Light Source: (336) 4500K 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: 2649.0 lumens  
Efficiency: N/A  
Efficacy: 97.0 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

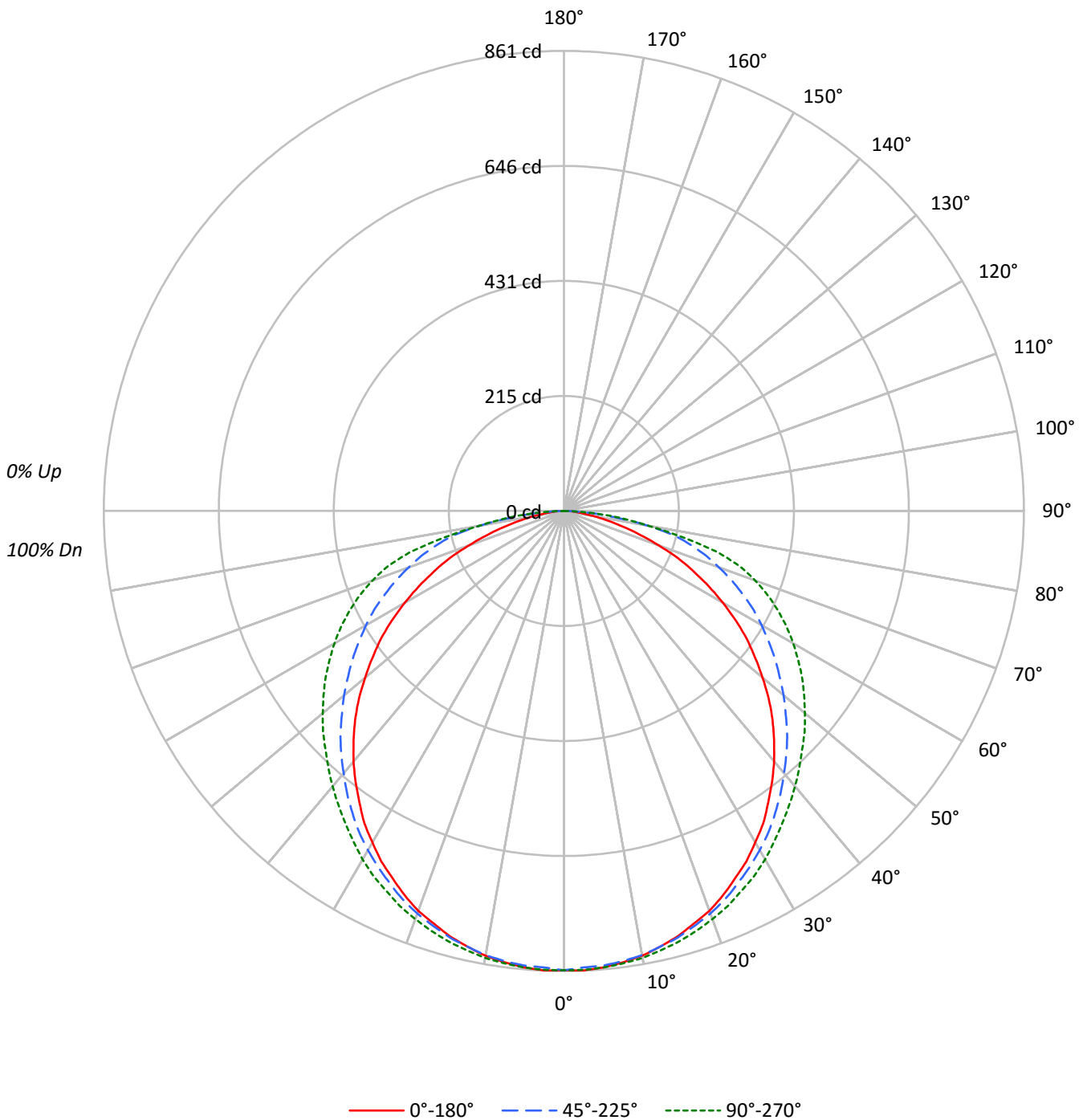
Input Watts (W): 27.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	1156	1156	1156
5°	1158	1153	1158
10°	1155	1153	1161
15°	1148	1151	1162
20°	1140	1148	1164
25°	1126	1143	1166
30°	1113	1139	1170
35°	1095	1133	1171
40°	1075	1126	1182
45°	1051	1125	1201
50°	1017	1124	1233
55°	981	1132	1277
60°	925	1149	1334
65°	855	1176	1409
70°	746	1217	1501
75°	605	1280	1551
80°	447	1254	1254
85°	343	925	1044



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	81.4	3.1
10°-20°	233.8	8.8
20°-30°	355.9	13.4
30°-40°	432.2	16.3
40°-50°	456.6	17.2
50°-60°	430.9	16.3
60°-70°	358.2	13.5
70°-80°	235.7	8.9
80°-90°	64.2	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°	671.2	25.3
0°-40°	1103.4	41.7
0°-60°	1990.8	75.2
0°-90°	2649.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2649.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	860	860	860	860	860	
5°	857	857	854	857	857	81
15°	824	825	826	834	834	232
25°	759	763	770	783	785	350
35°	666	674	690	708	713	417
45°	552	563	591	620	631	425
55°	418	436	482	528	544	372
65°	268	299	369	424	442	265
75°	116	170	246	292	298	125
85°	22	49	60	66	68	27
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	859.5	859.5	859.5	859.5	859.5
2.5°	860.6	859.5	855.0	859.5	859.5
5°	857.3	857.3	853.9	857.3	857.3
7.5°	851.7	851.7	849.5	853.9	853.9
10°	845.1	845.1	843.9	849.5	849.5
12.5°	835.1	836.2	835.1	841.7	841.7
15°	824.0	825.1	826.2	834.0	834.0
17.5°	809.6	811.8	814.0	822.9	824.0
20°	796.3	797.4	801.8	811.8	812.9
22.5°	778.5	781.8	787.4	797.4	800.7
25°	758.6	763.0	769.6	782.9	785.2
27.5°	739.7	743.0	751.9	766.3	770.8
30°	716.4	722.0	733.0	747.5	753.0
32.5°	694.2	699.8	713.1	728.6	733.0
35°	666.5	674.3	689.8	707.5	713.1
37.5°	639.9	647.7	666.5	686.5	693.1
40°	612.2	621.0	641.0	664.3	673.2
42.5°	582.2	594.4	616.6	642.1	652.1
45°	552.3	563.4	591.1	619.9	631.0
47.5°	520.1	533.4	563.4	597.7	611.1
50°	485.7	502.4	536.8	574.5	588.9
52.5°	451.4	470.2	509.0	551.2	566.7
55°	418.1	435.8	482.4	527.9	544.5
57.5°	381.5	403.7	454.7	503.5	520.1
60°	343.8	368.2	427.0	478.0	495.7
62.5°	306.1	333.8	400.3	451.4	470.2
65°	268.4	299.4	369.3	423.6	442.5
67.5°	231.8	266.2	340.5	394.8	413.7
70°	189.6	232.9	309.4	362.6	381.5
72.5°	150.8	200.7	279.5	329.4	346.0
75°	116.4	169.7	246.2	291.7	298.3
77.5°	85.4	138.6	211.8	227.3	228.5
80°	57.7	110.9	161.9	159.7	161.9
82.5°	37.7	83.2	102.0	114.2	115.3
85°	22.2	48.8	59.9	66.5	67.6
87.5°	11.1	16.6	21.1	22.2	24.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)