

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: P313210

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-HRP-CP250-W2A-U-3000K**

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: P313210  
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-L83050-HRP-CP250-W2A-U-3000K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"  
POLYCARB SHEET  
Light Source: (336) 3000K 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: 2794.0 lumens  
Efficiency: N/A  
Efficacy: 82.9 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

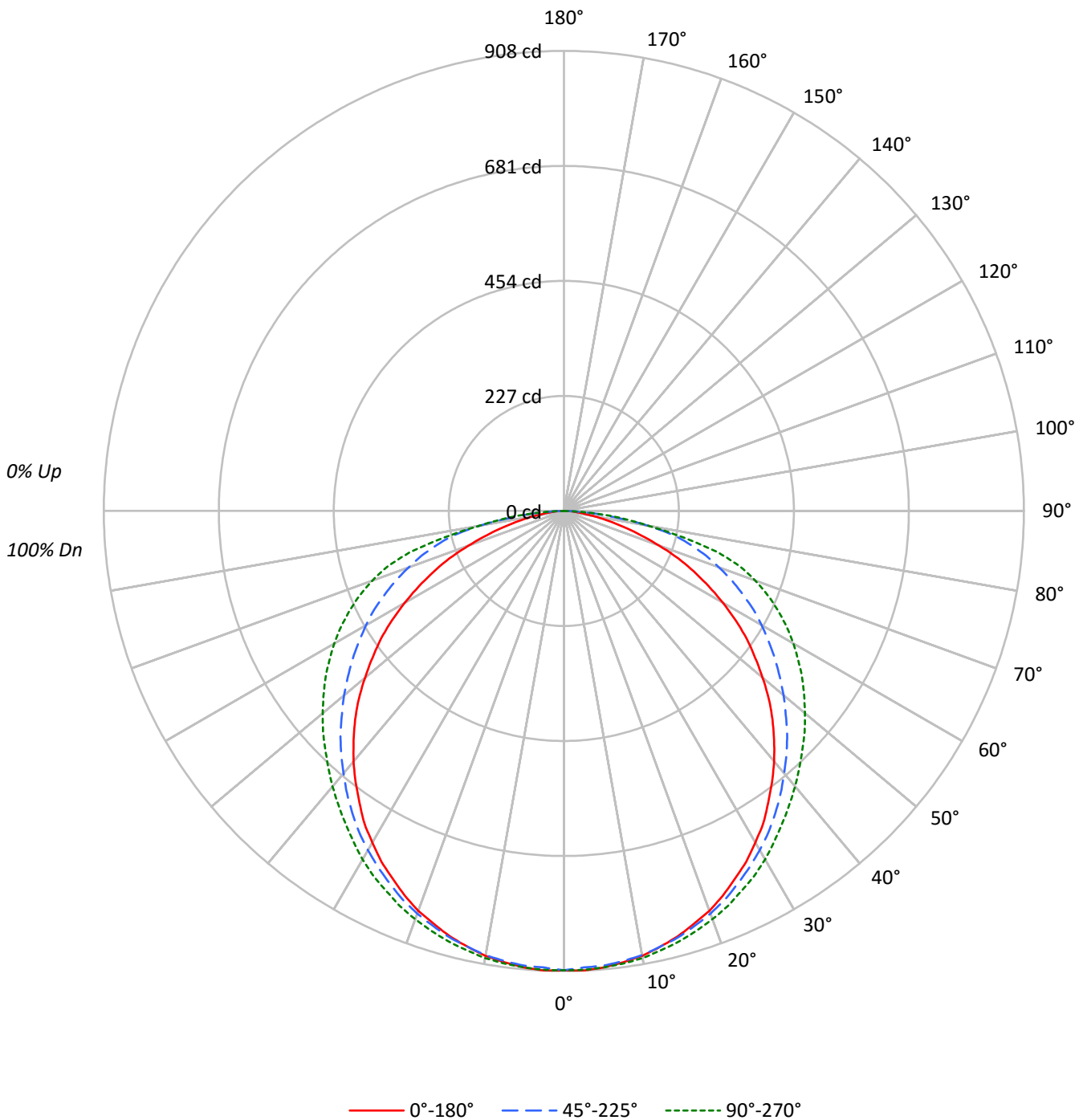
Input Watts (W): 33.7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1220	1220	1220
5°	1221	1217	1221
10°	1218	1216	1224
15°	1211	1214	1225
20°	1202	1211	1228
25°	1188	1205	1229
30°	1174	1201	1234
35°	1155	1195	1235
40°	1134	1188	1247
45°	1108	1186	1267
50°	1072	1185	1300
55°	1034	1194	1347
60°	976	1212	1407
65°	901	1240	1486
70°	787	1284	1583
75°	638	1350	1635
80°	471	1323	1323
85°	361	976	1102



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	85.9	3.1
10°-20°	246.6	8.8
20°-30°	375.4	13.4
30°-40°	455.9	16.3
40°-50°	481.6	17.2
50°-60°	454.4	16.3
60°-70°	377.9	13.5
70°-80°	248.6	8.9
80°-90°	67.8	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°	707.9	25.3
0°-40°	1163.8	41.7
0°-60°	2099.8	75.2
0°-90°	2794.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2794.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	906	906	906	906	906	
5°	904	904	901	904	904	86
15°	869	870	871	880	880	245
25°	800	805	812	826	828	369
35°	703	711	728	746	752	440
45°	582	594	623	654	666	449
55°	441	460	509	557	574	393
65°	283	316	390	447	467	280
75°	123	179	260	308	315	132
85°	23	52	63	70	71	29
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	906.5	906.5	906.5	906.5	906.5
2.5°	907.7	906.5	901.8	906.5	906.5
5°	904.2	904.2	900.7	904.2	904.2
7.5°	898.3	898.3	896.0	900.7	900.7
10°	891.3	891.3	890.1	896.0	896.0
12.5°	880.8	882.0	880.8	887.8	887.8
15°	869.1	870.3	871.4	879.6	879.6
17.5°	853.9	856.2	858.6	867.9	869.1
20°	839.8	841.0	845.7	856.2	857.4
22.5°	821.1	824.6	830.5	841.0	844.5
25°	800.1	804.8	811.8	825.8	828.1
27.5°	780.2	783.7	793.1	808.3	812.9
30°	755.6	761.5	773.2	788.4	794.2
32.5°	732.2	738.1	752.1	768.5	773.2
35°	703.0	711.2	727.6	746.3	752.1
37.5°	674.9	683.1	703.0	724.0	731.1
40°	645.7	655.0	676.1	700.6	710.0
42.5°	614.1	627.0	650.4	677.3	687.8
45°	582.5	594.2	623.4	653.9	665.6
47.5°	548.6	562.6	594.2	630.5	644.5
50°	512.3	529.9	566.1	605.9	621.1
52.5°	476.1	496.0	536.9	581.3	597.7
55°	441.0	459.7	508.8	556.8	574.3
57.5°	402.4	425.8	479.6	531.0	548.6
60°	362.6	388.3	450.3	504.1	522.9
62.5°	322.8	352.1	422.3	476.1	496.0
65°	283.1	315.8	389.5	446.8	466.7
67.5°	244.5	280.7	359.1	416.4	436.3
70°	200.0	245.6	326.3	382.5	402.4
72.5°	159.1	211.7	294.8	347.4	364.9
75°	122.8	179.0	259.7	307.6	314.6
77.5°	90.1	146.2	223.4	239.8	241.0
80°	60.8	117.0	170.8	168.4	170.8
82.5°	39.8	87.7	107.6	120.5	121.6
85°	23.4	51.5	63.2	70.2	71.4
87.5°	11.7	17.5	22.2	23.4	25.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)