

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: P309049

Luminaire Tested: **22FCZ2-34HE-UNV-L82765-S-CP250-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: P309049
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-23)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 22FCZ2-34HE-UNV-L82765-S-CP250-W2A-U-6500K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (168) 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: 3167.0 lumens
Efficiency: N/A
Efficacy: 110.0 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.26 / 1.34
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

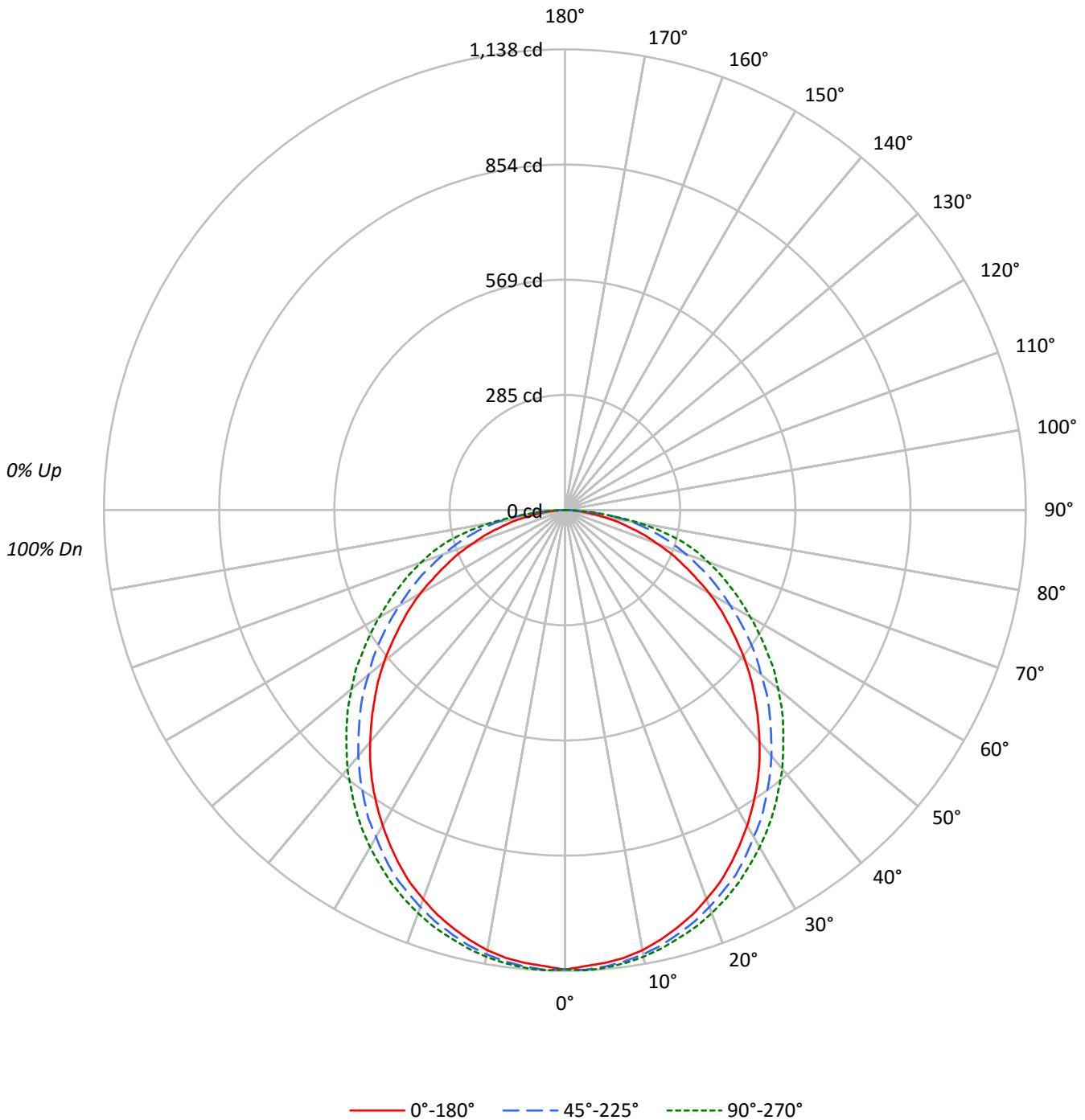
Input Watts (W): 28.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	52	49
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27
10	53	40	32	26	51	39	31	26	38	31	26	37	31	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3054	3054	3054
5°	3034	3058	3065
10°	3016	3044	3061
15°	2976	3017	3046
20°	2928	2987	3034
25°	2869	2957	3014
30°	2796	2897	2989
35°	2718	2845	2961
40°	2627	2787	2933
45°	2530	2722	2902
50°	2437	2647	2876
55°	2322	2600	2856
60°	2219	2537	2847
65°	2070	2521	2879
70°	1906	2500	2965
75°	1721	2535	3119
80°	1488	2611	2930
85°	1232	2189	2189



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.3	3.4
10°-20°	305.4	9.6
20°-30°	457.0	14.4
30°-40°	541.2	17.1
40°-50°	551.5	17.4
50°-60°	494.3	15.6
60°-70°	387.0	12.2
70°-80°	249.6	7.9
80°-90°	73.7	2.3
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°	869.7	27.5
0°-40°	1410.9	44.5
0°-60°	2456.7	77.6
0°-90°	3167.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3167.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1135	1135	1135	1135	1135	
5°	1123	1126	1132	1133	1135	107
15°	1068	1074	1083	1092	1094	301
25°	966	975	996	1009	1015	445
35°	828	838	866	892	901	517
45°	665	680	715	752	762	513
55°	495	511	554	592	609	444
65°	325	344	396	434	452	323
75°	166	191	244	285	300	177
85°	40	55	71	71	71	47
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1134.8	1134.8	1134.8	<i>1134.8</i>	1134.8
2.5°	<i>1127.4</i>	<i>1130.4</i>	<i>1136.3</i>	<i>1137.8</i>	<i>1137.8</i>
5°	1123.0	1126.0	1131.9	<i>1133.4</i>	1134.8
7.5°	1115.6	1117.1	1124.5	<i>1127.4</i>	1128.9
10°	1103.8	1106.8	1114.1	<i>1118.6</i>	1120.1
12.5°	1087.6	1092.0	1100.8	<i>1106.8</i>	1108.2
15°	1068.3	1074.3	1083.1	<i>1092.0</i>	1093.5
17.5°	1047.7	1053.6	1065.4	<i>1075.7</i>	1078.7
20°	1022.5	1029.9	1043.2	<i>1055.0</i>	1059.5
22.5°	997.4	1003.3	1019.6	<i>1034.4</i>	1038.8
25°	966.4	975.2	995.9	<i>1009.2</i>	1015.1
27.5°	933.9	944.2	964.9	<i>982.6</i>	988.5
30°	899.9	910.2	932.4	<i>954.6</i>	961.9
32.5°	864.4	876.2	902.8	<i>925.0</i>	932.4
35°	827.5	837.8	865.9	<i>892.5</i>	901.4
37.5°	789.1	797.9	830.4	<i>858.5</i>	867.4
40°	747.7	759.5	793.5	<i>826.0</i>	834.9
42.5°	706.3	719.6	753.6	<i>789.1</i>	797.9
45°	664.9	679.7	715.2	<i>752.1</i>	762.5
47.5°	625.0	636.9	676.8	<i>712.2</i>	727.0
50°	582.2	594.0	632.4	<i>672.3</i>	687.1
52.5°	537.9	554.1	595.5	<i>633.9</i>	651.6
55°	495.0	511.3	554.1	<i>592.5</i>	608.8
57.5°	455.1	468.4	512.7	<i>552.6</i>	568.9
60°	412.3	424.1	471.4	<i>514.2</i>	529.0
62.5°	366.5	384.2	433.0	<i>472.8</i>	490.6
65°	325.1	344.3	396.0	<i>434.4</i>	452.2
67.5°	286.7	304.4	354.6	<i>396.0</i>	415.2
70°	242.3	266.0	317.7	<i>359.1</i>	376.8
72.5°	206.9	227.6	280.8	<i>322.1</i>	341.3
75°	165.5	190.6	243.8	<i>285.2</i>	300.0
77.5°	131.5	156.6	206.9	<i>239.4</i>	246.8
80°	96.0	121.2	168.5	<i>184.7</i>	189.1
82.5°	65.0	88.7	121.2	<i>125.6</i>	127.1
85°	39.9	54.7	70.9	<i>70.9</i>	70.9
87.5°	19.2	22.2	25.1	<i>23.6</i>	23.6
90°	0.0	0.0	0.0	<i>0.0</i>	0.0

(END OF REPORT)