

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: P314235

Luminaire Tested: **24FCZ2-35HE-UNV-L83050-S-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: P314235
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
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-S-CP250-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH 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: 2965.0 lumens
Efficiency: N/A
Efficacy: 114.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

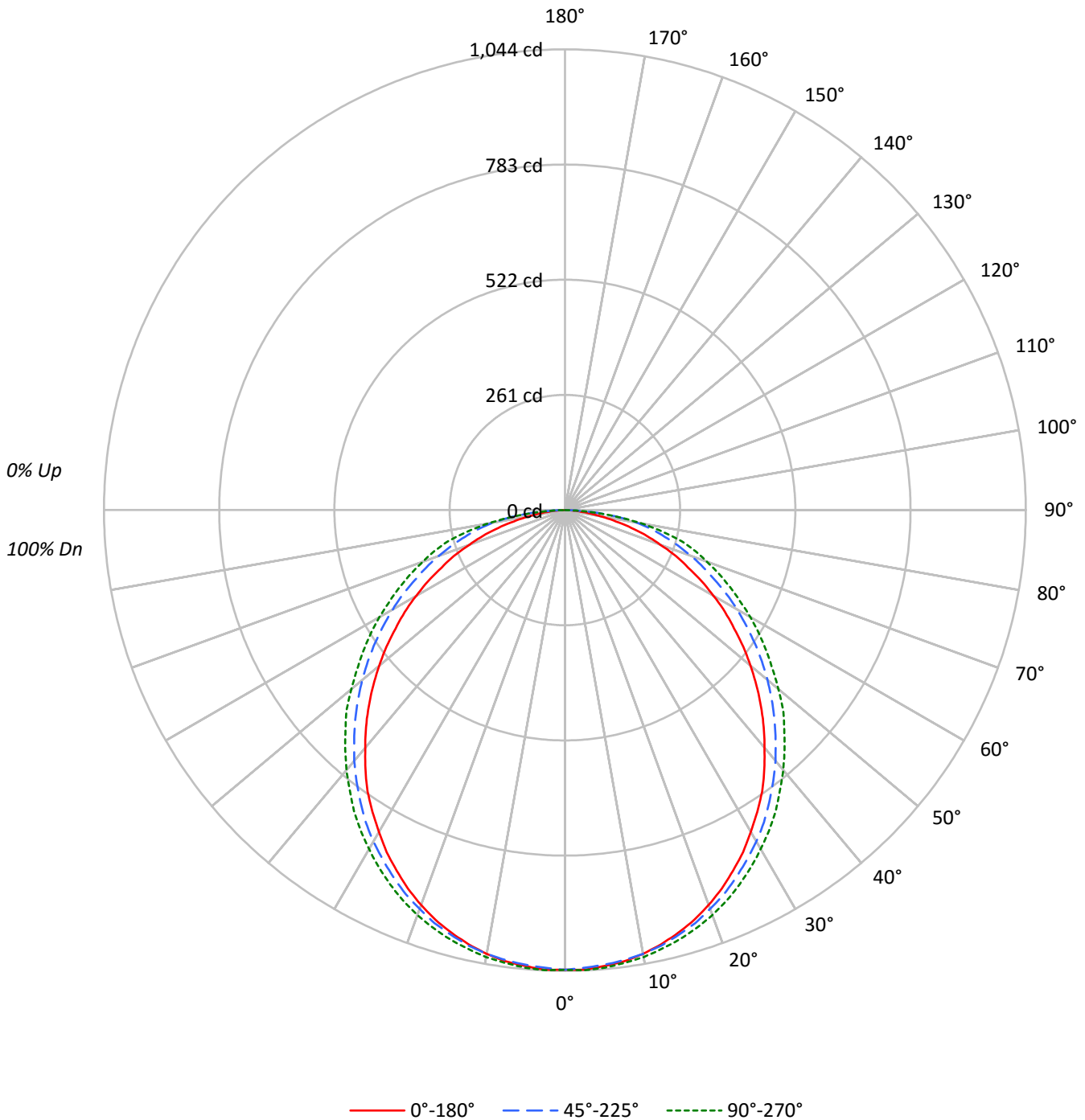
Input Watts (W): 25.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1401	1401	1401
5°	1400	1397	1406
10°	1395	1395	1405
15°	1381	1388	1402
20°	1363	1377	1398
25°	1338	1363	1390
30°	1308	1348	1378
35°	1279	1326	1367
40°	1236	1303	1351
45°	1195	1278	1337
50°	1149	1254	1321
55°	1098	1231	1308
60°	1047	1211	1305
65°	981	1190	1313
70°	908	1197	1349
75°	813	1219	1425
80°	657	1292	1394
85°	494	1135	1105



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.6	3.3
10°-20°	281.8	9.5
20°-30°	423.6	14.3
30°-40°	504.5	17.0
40°-50°	516.4	17.4
50°-60°	464.9	15.7
60°-70°	365.1	12.3
70°-80°	237.0	8.0
80°-90°	73.3	2.5
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°	803.9	27.1
0°-40°	1308.5	44.1
0°-60°	2289.7	77.2
0°-90°	2965.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2965.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1042	1042	1042	1042	1042	
5°	1037	1039	1034	1040	1041	99
15°	992	994	996	1005	1007	280
25°	901	909	918	933	936	415
35°	779	788	807	827	832	486
45°	628	643	672	697	703	484
55°	468	489	525	552	558	420
65°	308	332	374	405	412	307
75°	156	186	234	266	274	165
85°	32	59	74	72	72	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1041.6	1041.6	1041.6	1041.6	1041.6
2.5°	1042.6	1042.6	1037.9	1042.6	1043.5
5°	1036.9	1038.8	1034.1	1039.7	1040.7
7.5°	1031.3	1031.3	1028.4	1034.1	1035.0
10°	1020.9	1021.8	1020.9	1027.5	1028.4
12.5°	1007.7	1009.6	1010.5	1017.1	1018.1
15°	991.7	994.5	996.4	1004.9	1006.8
17.5°	973.8	976.6	981.3	990.8	992.7
20°	952.2	955.9	961.6	973.8	976.6
22.5°	928.6	932.4	941.8	953.1	957.8
25°	901.3	908.8	918.2	933.3	936.1
27.5°	874.0	880.6	892.8	908.8	912.6
30°	842.0	852.3	867.4	883.4	887.2
32.5°	810.9	821.2	839.1	856.1	860.8
35°	778.9	788.3	807.1	826.9	832.5
37.5°	742.1	754.4	775.1	794.9	800.5
40°	703.5	718.6	742.1	762.9	769.4
42.5°	666.8	682.8	706.3	728.9	736.5
45°	628.2	643.2	671.5	696.9	702.6
47.5°	588.6	605.6	635.7	661.1	670.6
50°	549.1	567.0	599.0	625.4	631.0
52.5°	509.5	528.3	562.3	590.5	593.3
55°	468.1	488.8	524.6	551.9	557.5
57.5°	430.4	448.3	486.9	515.2	521.8
60°	389.0	408.7	450.2	476.5	485.0
62.5°	349.4	370.1	413.4	439.8	447.4
65°	308.0	331.5	373.9	405.0	412.5
67.5°	272.2	294.8	340.0	370.1	377.7
70°	230.7	256.2	304.2	335.3	342.8
72.5°	195.0	221.3	269.4	299.5	310.8
75°	156.3	186.5	234.5	266.5	274.1
77.5°	118.7	153.5	202.5	227.0	227.0
80°	84.8	121.5	166.7	178.0	179.9
82.5°	55.6	91.4	123.4	122.4	122.4
85°	32.0	59.3	73.5	71.6	71.6
87.5°	12.2	24.5	26.4	26.4	25.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)