

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: P311328

Luminaire Tested: **24FCZ2-35-UNV-L82765-S-CP187-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: P311328
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: 24FCZ2-35-UNV-L82765-S-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" 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: 3019.0 lumens
Efficiency: N/A
Efficacy: 108.6 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

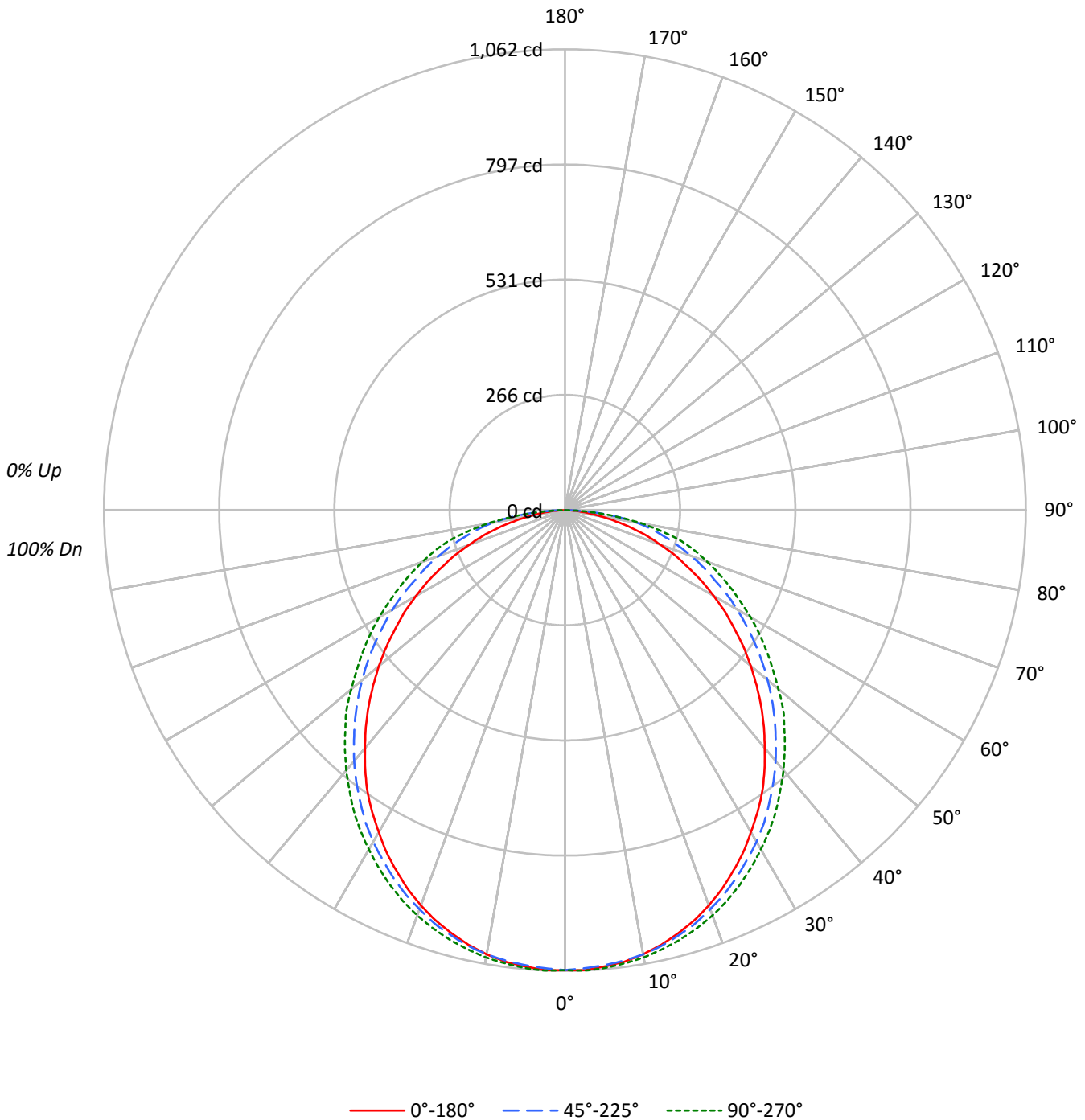
Input Watts (W): 27.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1427	1427	1427
5°	1426	1422	1431
10°	1420	1420	1431
15°	1407	1413	1428
20°	1388	1402	1424
25°	1362	1388	1415
30°	1332	1372	1403
35°	1303	1350	1392
40°	1258	1327	1376
45°	1217	1301	1361
50°	1170	1277	1345
55°	1118	1253	1332
60°	1066	1234	1329
65°	998	1212	1337
70°	924	1218	1373
75°	828	1241	1451
80°	669	1315	1420
85°	503	1155	1125



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.4	3.3
10°-20°	286.9	9.5
20°-30°	431.3	14.3
30°-40°	513.7	17.0
40°-50°	525.8	17.4
50°-60°	473.3	15.7
60°-70°	371.7	12.3
70°-80°	241.3	8.0
80°-90°	74.6	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°	818.6	27.1
0°-40°	1332.3	44.1
0°-60°	2331.4	77.2
0°-90°	3019.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3019.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1061	1061	1061	1061	1061	
5°	1056	1058	1053	1059	1060	100
15°	1010	1013	1015	1023	1025	285
25°	918	925	935	950	953	423
35°	793	803	822	842	848	495
45°	640	655	684	710	715	493
55°	477	498	534	562	568	427
65°	314	338	381	412	420	312
75°	159	190	239	271	279	168
85°	33	60	75	73	73	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1060.6	1060.6	1060.6	1060.6	1060.6
2.5°	1061.6	1061.6	1056.8	1061.6	1062.5
5°	1055.8	1057.7	1052.9	1058.7	1059.6
7.5°	1050.0	1050.0	1047.2	1052.9	1053.9
10°	1039.5	1040.5	1039.5	1046.2	1047.2
12.5°	1026.1	1028.0	1028.9	1035.7	1036.6
15°	1009.8	1012.6	1014.6	1023.2	1025.1
17.5°	991.6	994.4	999.2	1008.8	1010.7
20°	969.5	973.3	979.1	991.6	994.4
22.5°	945.5	949.4	958.9	970.5	975.2
25°	917.7	925.4	935.0	950.3	953.2
27.5°	889.9	896.6	909.1	925.4	929.2
30°	857.3	867.8	883.2	899.5	903.3
32.5°	825.7	836.2	854.4	871.7	876.5
35°	793.0	802.6	821.8	842.0	847.7
37.5°	755.6	768.1	789.2	809.4	815.1
40°	716.3	731.7	755.6	776.7	783.5
42.5°	678.9	695.2	719.2	742.2	749.9
45°	639.6	655.0	683.7	709.6	715.4
47.5°	599.3	616.6	647.3	673.2	682.8
50°	559.1	577.3	609.9	636.7	642.5
52.5°	518.8	538.0	572.5	601.3	604.1
55°	476.6	497.7	534.1	561.9	567.7
57.5°	438.2	456.5	495.8	524.5	531.3
60°	396.0	416.2	458.4	485.2	493.9
62.5°	355.8	376.9	421.0	447.8	455.5
65°	313.6	337.5	380.7	412.3	420.0
67.5°	277.1	300.2	346.2	376.9	384.5
70°	234.9	260.8	309.7	341.4	349.1
72.5°	198.5	225.4	274.3	304.9	316.5
75°	159.2	189.9	238.8	271.4	279.1
77.5°	120.8	156.3	206.2	231.1	231.1
80°	86.3	123.7	169.7	181.2	183.2
82.5°	56.6	93.0	125.6	124.7	124.7
85°	32.6	60.4	74.8	72.9	72.9
87.5°	12.5	24.9	26.9	26.9	25.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)