

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: P311282

Luminaire Tested: **24FCZ2-35HE-UNV-L82765-S-CP187-W2A-U-2700K**

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: P311282
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-L82765-S-CP187-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 2700K 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: 2903.0 lumens
Efficiency: N/A
Efficacy: 111.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

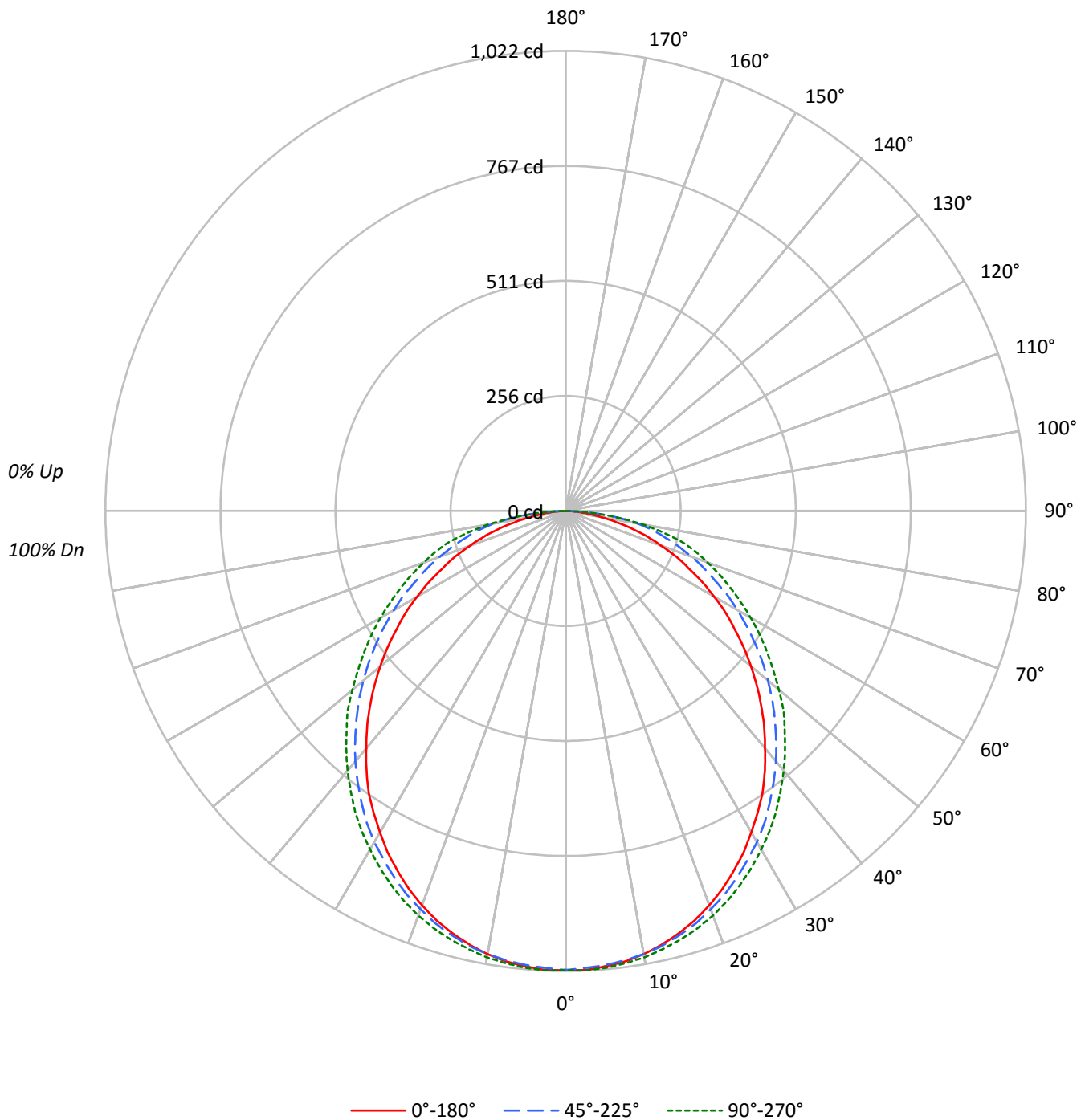
Input Watts (W): 26
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P311282

CATALOG NUMBER: 24FCZ2-35HE-UNV-L82765-S-CP187-W2A-U-2700K

Luminous Intensity Polar Plot





TEST NUMBER: P311282

CATALOG NUMBER: 24FCZ2-35HE-UNV-L82765-S-CP187-W2A-U-2700K

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				0
RW	70	50	30	10	70	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		100
1	108	103	99	95	106	101	97	93	97	93	90		93	90	88		83
2	98	90	83	77	96	88	81	76	84	79	74		81	76	72		69
3	89	79	70	64	87	77	69	63	74	67	62		71	66	61		58
4	82	70	61	54	80	68	60	54	66	59	53		63	57	52		49
5	75	62	53	46	73	61	53	46	59	51	46		57	50	45		42
6	70	56	47	40	68	55	47	40	53	46	40		52	45	40		37
7	64	51	42	36	63	50	42	36	48	41	35		47	40	35		33
8	60	46	38	32	58	46	37	32	44	37	32		43	36	31		29
9	56	43	34	29	55	42	34	29	41	34	28		40	33	28		26
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1372	1372	1372
5°	1371	1368	1376
10°	1366	1366	1376
15°	1353	1359	1373
20°	1335	1348	1369
25°	1310	1335	1361
30°	1281	1320	1349
35°	1253	1298	1339
40°	1210	1276	1323
45°	1170	1251	1309
50°	1125	1228	1293
55°	1075	1205	1281
60°	1025	1186	1278
65°	960	1166	1286
70°	889	1172	1320
75°	796	1194	1395
80°	643	1265	1364
85°	485	1110	1082



TEST NUMBER: P311282

CATALOG NUMBER: 24FCZ2-35HE-UNV-L82765-S-CP187-W2A-U-2700K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.5	3.3
10°-20°	275.9	9.5
20°-30°	414.7	14.3
30°-40°	494.0	17.0
40°-50°	505.6	17.4
50°-60°	455.2	15.7
60°-70°	357.4	12.3
70°-80°	232.0	8.0
80°-90°	71.8	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°	787.1	27.1
0°-40°	1281.1	44.1
0°-60°	2241.8	77.2
0°-90°	2903.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2903.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1020	1020	1020	1020	1020	
5°	1015	1017	1012	1018	1019	96
15°	971	974	976	984	986	274
25°	882	890	899	914	917	407
35°	763	772	790	810	815	476
45°	615	630	658	682	688	474
55°	458	479	514	540	546	411
65°	302	325	366	396	404	300
75°	153	183	230	261	268	162
85°	31	58	72	70	70	38
90°	0	0	0	0	0	



TEST NUMBER: P311282

CATALOG NUMBER: 24FCZ2-35HE-UNV-L82765-S-CP187-W2A-U-2700K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1019.8	1019.8	1019.8	1019.8	1019.8
2.5°	1020.8	1020.8	1016.2	1020.8	1021.7
5°	1015.2	1017.1	1012.5	1018.0	1018.9
7.5°	1009.7	1009.7	1006.9	1012.5	1013.4
10°	999.6	1000.5	999.6	1006.0	1006.9
12.5°	986.6	988.5	989.4	995.9	996.8
15°	971.0	973.7	975.6	983.9	985.7
17.5°	953.5	956.2	960.8	970.0	971.9
20°	932.2	935.9	941.5	953.5	956.2
22.5°	909.2	912.9	922.1	933.2	937.8
25°	882.4	889.8	899.0	913.8	916.6
27.5°	855.7	862.2	874.2	889.8	893.5
30°	824.4	834.5	849.3	864.9	868.6
32.5°	793.9	804.1	821.6	838.2	842.8
35°	762.6	771.8	790.2	809.6	815.1
37.5°	726.6	738.6	758.9	778.3	783.8
40°	688.8	703.6	726.6	746.9	753.4
42.5°	652.8	668.5	691.6	713.7	721.1
45°	615.0	629.8	657.5	682.4	687.9
47.5°	576.3	592.9	622.4	647.3	656.5
50°	537.6	555.1	586.5	612.3	617.8
52.5°	498.9	517.3	550.5	578.2	580.9
55°	458.3	478.6	513.6	540.4	545.9
57.5°	421.4	438.9	476.7	504.4	510.8
60°	380.8	400.2	440.8	466.6	474.9
62.5°	342.1	362.4	404.8	430.6	438.0
65°	301.5	324.6	366.1	396.5	403.9
67.5°	266.5	288.6	332.9	362.4	369.8
70°	225.9	250.8	297.8	328.3	335.6
72.5°	190.9	216.7	263.7	293.2	304.3
75°	153.1	182.6	229.6	261.0	268.3
77.5°	116.2	150.3	198.3	222.2	222.2
80°	83.0	119.0	163.2	174.3	176.1
82.5°	54.4	89.4	120.8	119.9	119.9
85°	31.4	58.1	71.9	70.1	70.1
87.5°	12.0	24.0	25.8	25.8	24.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)