

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: P311288

Luminaire Tested: **24FCZ2-35HE-UNV-L82765-S-CP187-W2A-U-5500K**

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: P311288
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-5500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 5500K 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: 3289.0 lumens
Efficiency: N/A
Efficacy: 123.2 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

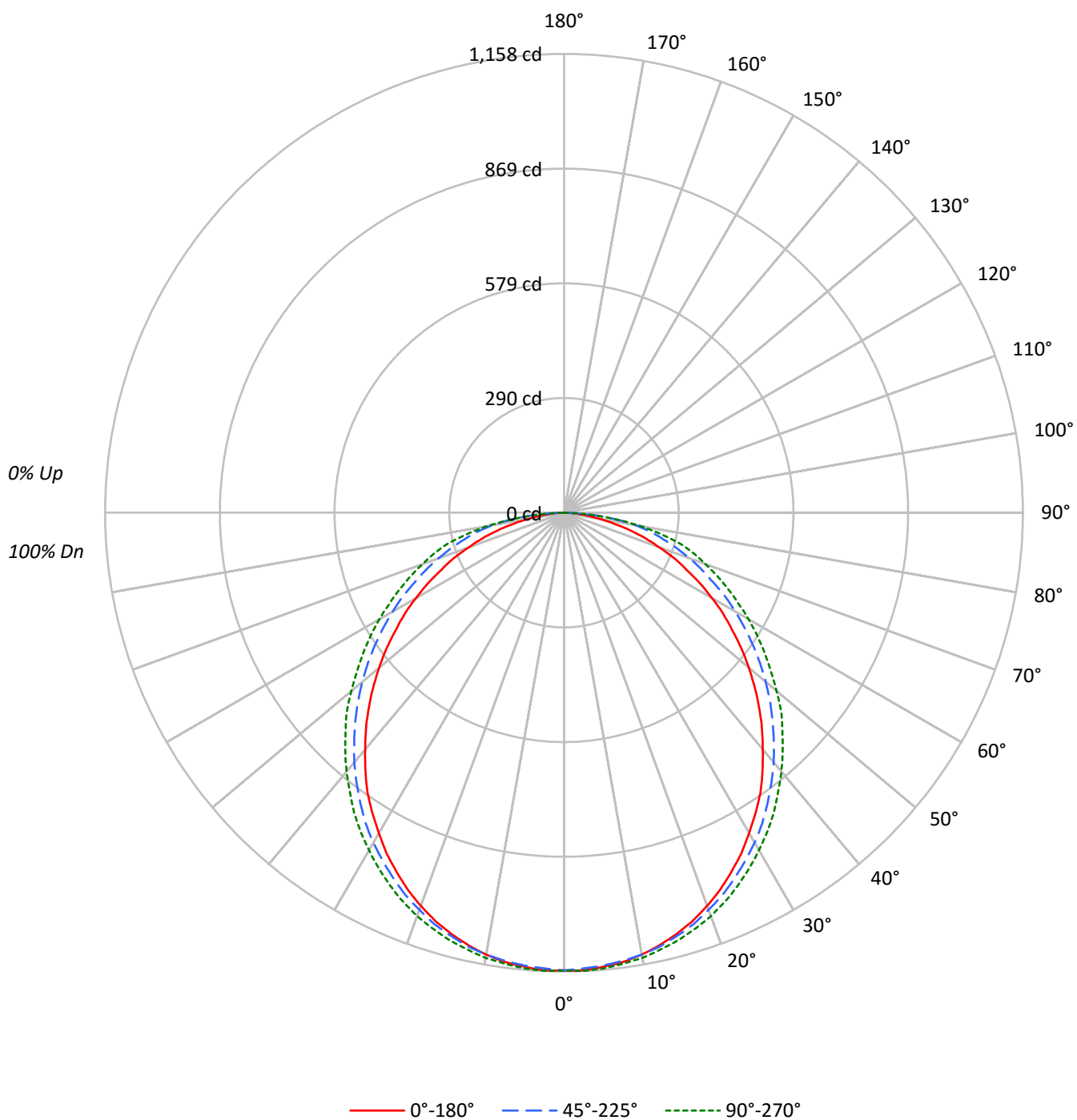
Input Watts (W): 26.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P311288

CATALOG NUMBER: 24FCZ2-35HE-UNV-L82765-S-CP187-W2A-U-5500K

Luminous Intensity Polar Plot





TEST NUMBER: P311288

CATALOG NUMBER: 24FCZ2-35HE-UNV-L82765-S-CP187-W2A-U-5500K

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°	1555	1555	1555
5°	1553	1549	1559
10°	1547	1547	1559
15°	1532	1540	1556
20°	1512	1527	1551
25°	1484	1512	1542
30°	1451	1495	1529
35°	1419	1471	1517
40°	1371	1446	1499
45°	1326	1417	1483
50°	1275	1391	1465
55°	1218	1365	1451
60°	1161	1344	1448
65°	1088	1320	1457
70°	1007	1327	1496
75°	901	1352	1580
80°	728	1433	1546
85°	548	1258	1226



TEST NUMBER: P311288

CATALOG NUMBER: 24FCZ2-35HE-UNV-L82765-S-CP187-W2A-U-5500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.4	3.3
10°-20°	312.6	9.5
20°-30°	469.8	14.3
30°-40°	559.7	17.0
40°-50°	572.8	17.4
50°-60°	515.7	15.7
60°-70°	405.0	12.3
70°-80°	262.8	8.0
80°-90°	81.3	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°	891.8	27.1
0°-40°	1451.4	44.1
0°-60°	2539.9	77.2
0°-90°	3289.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3289.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1155	1155	1155	1155	1155	
5°	1150	1152	1147	1153	1154	109
15°	1100	1103	1105	1115	1117	310
25°	1000	1008	1019	1035	1038	461
35°	864	874	895	917	924	539
45°	697	714	745	773	779	537
55°	519	542	582	612	618	465
65°	342	368	415	449	458	340
75°	173	207	260	296	304	184
85°	36	66	82	79	79	43
90°	0	0	0	0	0	



TEST NUMBER: P311288

CATALOG NUMBER: 24FCZ2-35HE-UNV-L82765-S-CP187-W2A-U-5500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1155.4	1155.4	1155.4	1155.4	1155.4
2.5°	1156.5	1156.5	1151.3	1156.5	1157.5
5°	1150.2	1152.3	1147.1	1153.4	1154.4
7.5°	1144.0	1144.0	1140.8	1147.1	1148.1
10°	1132.5	1133.5	1132.5	1139.8	1140.8
12.5°	1117.8	1119.9	1121.0	1128.3	1129.3
15°	1100.1	1103.2	1105.3	1114.7	1116.8
17.5°	1080.2	1083.4	1088.6	1099.0	1101.1
20°	1056.2	1060.4	1066.6	1080.2	1083.4
22.5°	1030.1	1034.3	1044.7	1057.2	1062.5
25°	999.8	1008.1	1018.6	1035.3	1038.4
27.5°	969.5	976.8	990.4	1008.1	1012.3
30°	934.0	945.5	962.2	979.9	984.1
32.5°	899.5	911.0	930.8	949.6	954.9
35°	864.0	874.4	895.3	917.3	923.5
37.5°	823.2	836.8	859.8	881.7	888.0
40°	780.4	797.1	823.2	846.2	853.5
42.5°	739.7	757.4	783.5	808.6	817.0
45°	696.8	713.5	744.9	773.1	779.4
47.5°	652.9	671.7	705.2	733.4	743.8
50°	609.1	628.9	664.4	693.7	700.0
52.5°	565.2	586.1	623.7	655.0	658.2
55°	519.2	542.2	581.9	612.2	618.5
57.5°	477.4	497.3	540.1	571.5	578.8
60°	431.5	453.4	499.4	528.6	538.0
62.5°	387.6	410.6	458.6	487.9	496.2
65°	341.6	367.7	414.7	449.2	457.6
67.5°	301.9	327.0	377.1	410.6	418.9
70°	256.0	284.2	337.4	371.9	380.3
72.5°	216.3	245.5	298.8	332.2	344.8
75°	173.4	206.9	260.1	295.7	304.0
77.5°	131.6	170.3	224.6	251.8	251.8
80°	94.0	134.8	184.9	197.4	199.5
82.5°	61.6	101.3	136.9	135.8	135.8
85°	35.5	65.8	81.5	79.4	79.4
87.5°	13.6	27.2	29.3	29.3	28.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)