

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: P314232

Luminaire Tested: **24FCZ2-35HE-UNV-L83050-S-CP187-W2A-U-4000K**

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: P314232
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-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 4000K 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: 3321.0 lumens
Efficiency: N/A
Efficacy: 124.8 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

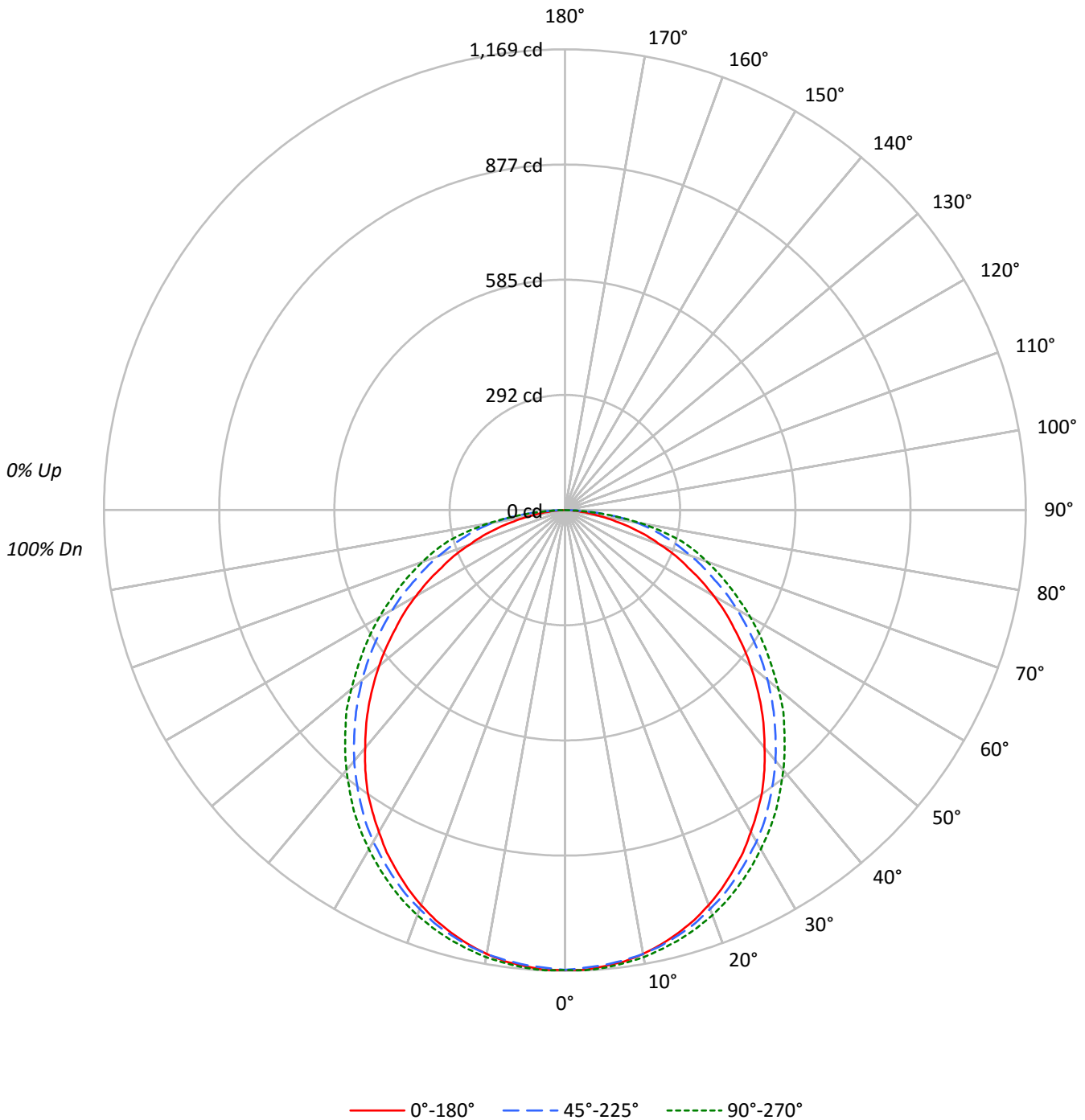
Input Watts (W): 26.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P314232

CATALOG NUMBER: 24FCZ2-35HE-UNV-L83050-S-CP187-W2A-U-4000K

Luminous Intensity Polar Plot





TEST NUMBER: P314232

CATALOG NUMBER: 24FCZ2-35HE-UNV-L83050-S-CP187-W2A-U-4000K

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°	1570	1570	1570
5°	1569	1564	1574
10°	1562	1562	1574
15°	1547	1555	1571
20°	1527	1542	1566
25°	1499	1527	1557
30°	1465	1509	1544
35°	1433	1485	1532
40°	1384	1460	1514
45°	1339	1431	1497
50°	1287	1404	1479
55°	1230	1378	1465
60°	1172	1357	1462
65°	1098	1333	1471
70°	1017	1340	1511
75°	910	1366	1596
80°	735	1447	1561
85°	554	1271	1238



TEST NUMBER: P314232

CATALOG NUMBER: 24FCZ2-35HE-UNV-L83050-S-CP187-W2A-U-4000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.5	3.3
10°-20°	315.6	9.5
20°-30°	474.4	14.3
30°-40°	565.1	17.0
40°-50°	578.4	17.4
50°-60°	520.7	15.7
60°-70°	408.9	12.3
70°-80°	265.4	8.0
80°-90°	82.1	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°	900.5	27.1
0°-40°	1465.6	44.1
0°-60°	2564.6	77.2
0°-90°	3321.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3321.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1167	1167	1167	1167	1167	
5°	1161	1164	1158	1165	1166	110
15°	1111	1114	1116	1126	1128	313
25°	1010	1018	1028	1045	1048	465
35°	872	883	904	926	932	544
45°	704	720	752	781	787	542
55°	524	548	588	618	624	470
65°	345	371	419	454	462	343
75°	175	209	263	298	307	185
85°	36	66	82	80	80	43
90°	0	0	0	0	0	



TEST NUMBER: P314232

CATALOG NUMBER: 24FCZ2-35HE-UNV-L83050-S-CP187-W2A-U-4000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1166.7	1166.7	1166.7	1166.7	1166.7
2.5°	1167.7	1167.7	1162.5	1167.7	1168.8
5°	1161.4	1163.5	1158.3	1164.6	1165.6
7.5°	1155.1	1155.1	1151.9	1158.3	1159.3
10°	1143.5	1144.5	1143.5	1150.9	1151.9
12.5°	1128.7	1130.8	1131.9	1139.3	1140.3
15°	1110.8	1113.9	1116.1	1125.5	1127.7
17.5°	1090.7	1093.9	1099.2	1109.7	1111.8
20°	1066.5	1070.7	1077.0	1090.7	1093.9
22.5°	1040.1	1044.3	1054.9	1067.5	1072.8
25°	1009.5	1018.0	1028.5	1045.4	1048.5
27.5°	978.9	986.3	1000.0	1018.0	1022.2
30°	943.1	954.7	971.5	989.5	993.7
32.5°	908.2	919.8	939.9	958.9	964.2
35°	872.4	882.9	904.0	926.2	932.5
37.5°	831.2	845.0	868.2	890.3	896.6
40°	788.0	804.9	831.2	854.4	861.8
42.5°	746.8	764.8	791.2	816.5	824.9
45°	703.6	720.5	752.1	780.6	786.9
47.5°	659.3	678.3	712.0	740.5	751.1
50°	615.0	635.0	670.9	700.4	706.8
52.5°	570.7	591.8	629.8	661.4	664.6
55°	524.3	547.5	587.6	618.2	624.5
57.5°	482.1	502.1	545.4	577.0	584.4
60°	435.7	457.8	504.2	533.8	543.3
62.5°	391.4	414.6	463.1	492.6	501.1
65°	344.9	371.3	418.8	453.6	462.0
67.5°	304.9	330.2	380.8	414.6	423.0
70°	258.4	286.9	340.7	375.5	384.0
72.5°	218.4	247.9	301.7	335.4	348.1
75°	175.1	208.9	262.7	298.5	307.0
77.5°	132.9	171.9	226.8	254.2	254.2
80°	94.9	136.1	186.7	199.4	201.5
82.5°	62.2	102.3	138.2	137.1	137.1
85°	35.9	66.5	82.3	80.2	80.2
87.5°	13.7	27.4	29.5	29.5	28.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)