

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: P314228

Luminaire Tested: **24FCZ2-35HE-UNV-L83050-S-CP125-W2A-U-4500K**

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: P314228
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-CP125-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" POLYCARB SHEET
Light Source: (336) 4500K 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: 3501.0 lumens
Efficiency: N/A
Efficacy: 128.2 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

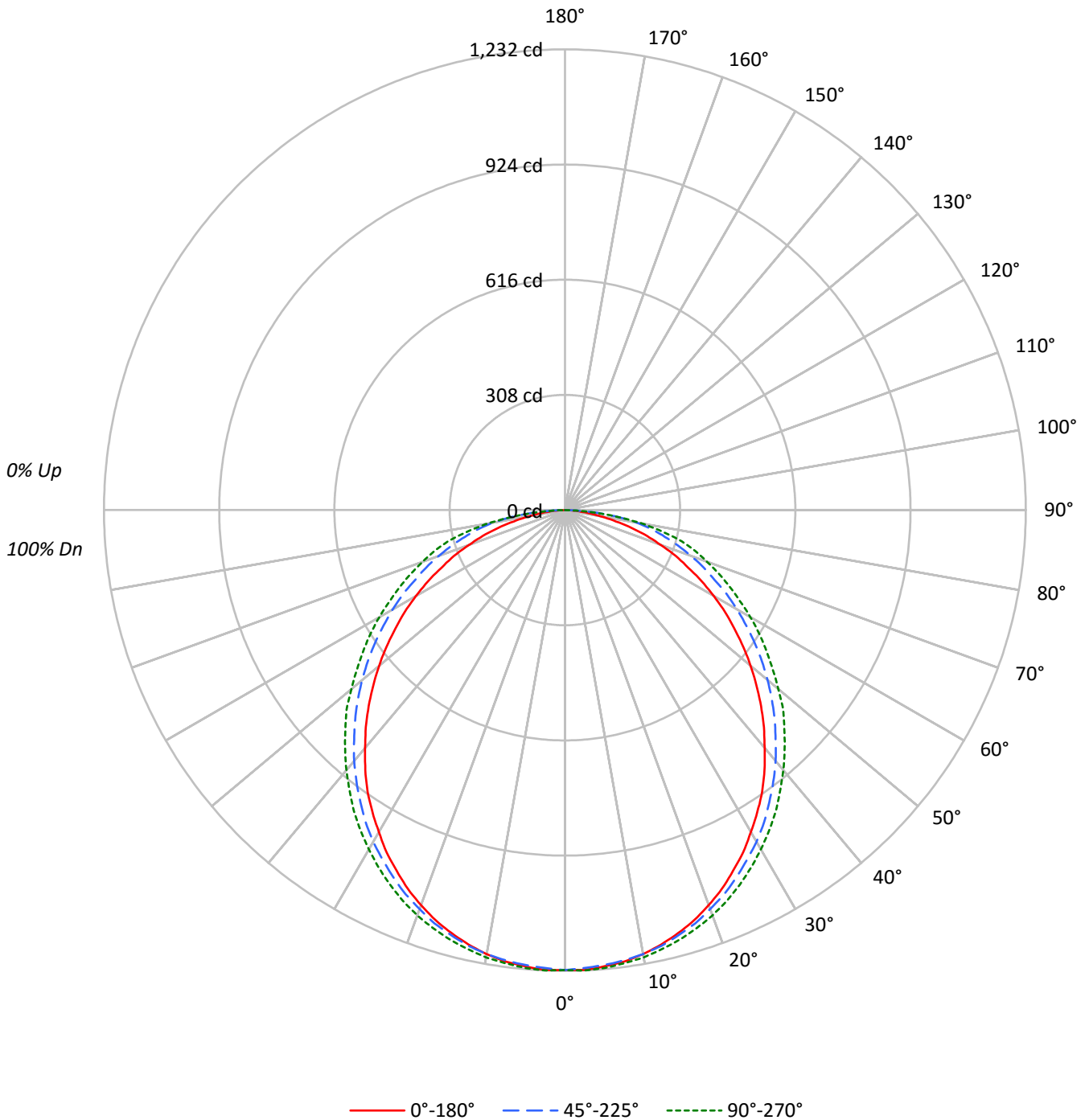
Input Watts (W): 27.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1655	1655	1655
5°	1654	1649	1660
10°	1647	1647	1659
15°	1631	1639	1656
20°	1610	1626	1651
25°	1580	1610	1641
30°	1545	1591	1627
35°	1511	1565	1615
40°	1459	1539	1596
45°	1411	1509	1579
50°	1357	1481	1560
55°	1297	1453	1544
60°	1236	1431	1541
65°	1158	1406	1551
70°	1072	1413	1592
75°	960	1439	1682
80°	776	1525	1646
85°	584	1338	1304



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.4	3.3
10°-20°	332.7	9.5
20°-30°	500.1	14.3
30°-40°	595.7	17.0
40°-50°	609.7	17.4
50°-60°	548.9	15.7
60°-70°	431.1	12.3
70°-80°	279.8	8.0
80°-90°	86.5	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°	949.3	27.1
0°-40°	1545.0	44.1
0°-60°	2703.6	77.2
0°-90°	3501.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3501.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1230	1230	1230	1230	1230	
5°	1224	1227	1221	1228	1229	116
15°	1171	1174	1176	1187	1189	330
25°	1064	1073	1084	1102	1105	490
35°	920	931	953	976	983	574
45°	742	760	793	823	830	572
55°	553	577	619	652	658	495
65°	364	391	442	478	487	362
75°	185	220	277	315	324	195
85°	38	70	87	84	84	46
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1229.9	1229.9	1229.9	1229.9	1229.9
2.5°	1231.0	1231.0	1225.5	1231.0	1232.1
5°	1224.4	1226.6	1221.0	1227.7	1228.8
7.5°	1217.7	1217.7	1214.4	1221.0	1222.1
10°	1205.5	1206.6	1205.5	1213.2	1214.4
12.5°	1189.9	1192.1	1193.2	1201.0	1202.1
15°	1171.0	1174.3	1176.5	1186.6	1188.8
17.5°	1149.9	1153.2	1158.8	1169.9	1172.1
20°	1124.3	1128.7	1135.4	1149.9	1153.2
22.5°	1096.5	1100.9	1112.0	1125.4	1131.0
25°	1064.2	1073.1	1084.2	1102.0	1105.4
27.5°	1032.0	1039.8	1054.2	1073.1	1077.6
30°	994.2	1006.4	1024.2	1043.1	1047.5
32.5°	957.5	969.7	990.8	1010.9	1016.4
35°	919.7	930.8	953.0	976.4	983.0
37.5°	876.3	890.7	915.2	938.6	945.2
40°	830.7	848.5	876.3	900.8	908.5
42.5°	787.3	806.2	834.0	860.7	869.6
45°	741.7	759.5	792.9	822.9	829.6
47.5°	695.0	715.0	750.6	780.7	791.8
50°	648.3	669.5	707.3	738.4	745.1
52.5°	601.6	623.9	663.9	697.3	700.6
55°	552.7	577.2	619.4	651.7	658.3
57.5°	508.2	529.3	574.9	608.3	616.1
60°	459.3	482.6	531.6	562.7	572.7
62.5°	412.6	437.0	488.2	519.3	528.2
65°	363.6	391.4	441.5	478.2	487.1
67.5°	321.4	348.1	401.4	437.0	445.9
70°	272.5	302.5	359.2	395.9	404.8
72.5°	230.2	261.3	318.0	353.6	367.0
75°	184.6	220.2	276.9	314.7	323.6
77.5°	140.1	181.3	239.1	268.0	268.0
80°	100.1	143.5	196.8	210.2	212.4
82.5°	65.6	107.9	145.7	144.6	144.6
85°	37.8	70.1	86.7	84.5	84.5
87.5°	14.5	28.9	31.1	31.1	30.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)