

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: P311260

Luminaire Tested: **24FCZ2-35HE-UNV-L82765-S-CA08-W2A-U-5000K**

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: P311260
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-CA08-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 5000K 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: 3480.0 lumens
Efficiency: N/A
Efficacy: 130.8 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

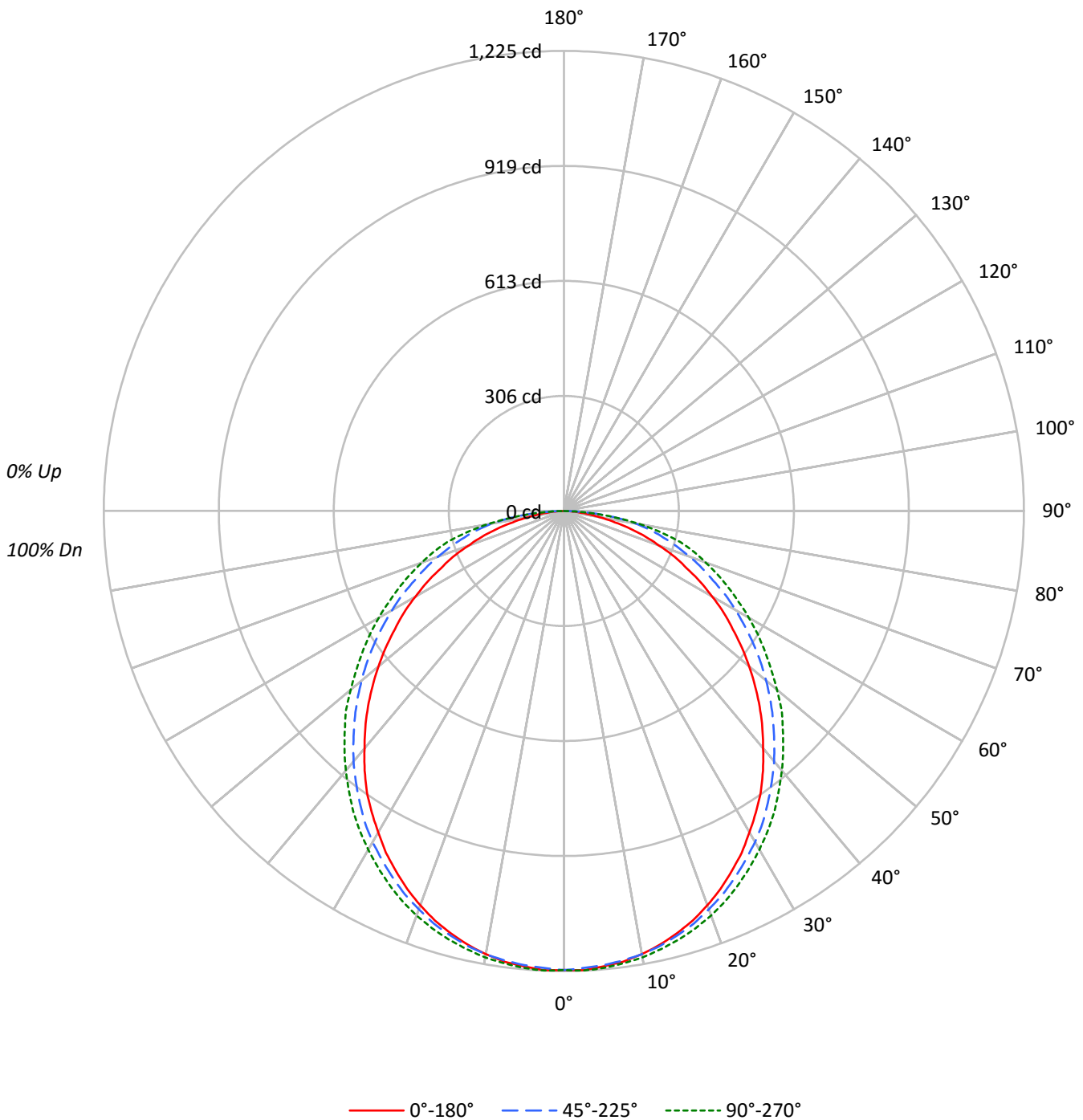
Input Watts (W): 26.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1645	1645	1645
5°	1644	1639	1650
10°	1637	1637	1649
15°	1621	1629	1646
20°	1600	1616	1641
25°	1570	1600	1631
30°	1535	1582	1618
35°	1501	1556	1605
40°	1450	1530	1586
45°	1403	1500	1569
50°	1349	1472	1550
55°	1289	1444	1535
60°	1228	1422	1532
65°	1151	1397	1542
70°	1065	1404	1583
75°	954	1431	1672
80°	771	1516	1636
85°	580	1331	1297



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.7	3.3
10°-20°	330.7	9.5
20°-30°	497.1	14.3
30°-40°	592.2	17.0
40°-50°	606.1	17.4
50°-60°	545.6	15.7
60°-70°	428.5	12.3
70°-80°	278.1	8.0
80°-90°	86.0	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°	943.6	27.1
0°-40°	1535.7	44.1
0°-60°	2687.4	77.2
0°-90°	3480.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3480.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1222	1222	1222	1222	1222	
5°	1217	1219	1214	1220	1221	116
15°	1164	1167	1170	1179	1182	328
25°	1058	1067	1078	1095	1099	487
35°	914	925	947	970	977	570
45°	737	755	788	818	825	568
55°	549	574	616	648	654	493
65°	362	389	439	475	484	360
75°	184	219	275	313	322	194
85°	38	70	86	84	84	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1222.5	1222.5	1222.5	1222.5	1222.5
2.5°	1223.7	1223.7	1218.1	1223.7	1224.8
5°	1217.0	1219.2	1213.7	1220.3	1221.4
7.5°	1210.4	1210.4	1207.1	1213.7	1214.8
10°	1198.2	1199.3	1198.2	1206.0	1207.1
12.5°	1182.8	1185.0	1186.1	1193.8	1194.9
15°	1164.0	1167.3	1169.5	1179.4	1181.6
17.5°	1143.0	1146.3	1151.8	1162.9	1165.1
20°	1117.5	1122.0	1128.6	1143.0	1146.3
22.5°	1089.9	1094.3	1105.4	1118.6	1124.2
25°	1057.8	1066.7	1077.7	1095.4	1098.7
27.5°	1025.8	1033.5	1047.9	1066.7	1071.1
30°	988.2	1000.4	1018.1	1036.8	1041.3
32.5°	951.7	963.9	984.9	1004.8	1010.3
35°	914.1	925.2	947.3	970.5	977.2
37.5°	871.0	885.4	909.7	932.9	939.6
40°	825.7	843.4	871.0	895.4	903.1
42.5°	782.6	801.4	829.0	855.6	864.4
45°	737.3	755.0	788.1	818.0	824.6
47.5°	690.9	710.8	746.1	776.0	787.0
50°	644.4	665.4	703.0	734.0	740.6
52.5°	598.0	620.1	659.9	693.1	696.4
55°	549.4	573.7	615.7	647.8	654.4
57.5°	505.2	526.2	571.5	604.6	612.4
60°	456.5	479.7	528.4	559.3	569.3
62.5°	410.1	434.4	485.3	516.2	525.1
65°	361.5	389.1	438.8	475.3	484.2
67.5°	319.5	346.0	399.0	434.4	443.3
70°	270.8	300.7	357.0	393.5	402.4
72.5°	228.8	259.8	316.1	351.5	364.8
75°	183.5	218.9	275.2	312.8	321.7
77.5°	139.3	180.2	237.7	266.4	266.4
80°	99.5	142.6	195.7	208.9	211.1
82.5°	65.2	107.2	144.8	143.7	143.7
85°	37.6	69.6	86.2	84.0	84.0
87.5°	14.4	28.7	31.0	31.0	29.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)