

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: P310356

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-RDP-CA08-W2A-U-3000K**

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: P310356
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-65HE-UNV-L82765-RDP-CA08-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC SHEET
Light Source: (336) 3000K 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: 3795.0 lumens
Efficiency: N/A
Efficacy: 72.7 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

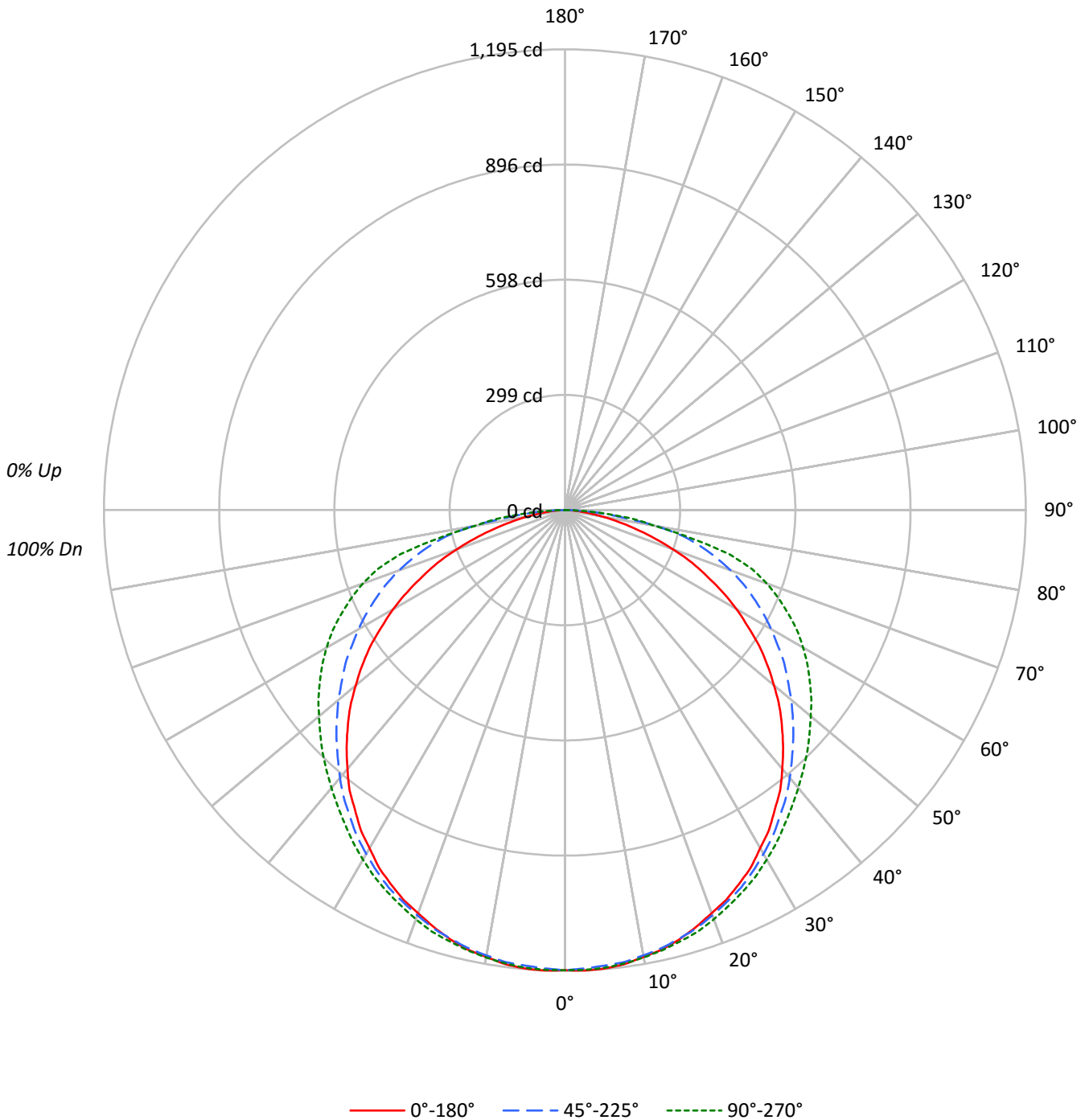
Input Watts (W): 52.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	68	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1606	1606	1606
5°	1612	1602	1609
10°	1607	1602	1610
15°	1605	1602	1613
20°	1593	1601	1617
25°	1587	1604	1621
30°	1573	1600	1626
35°	1558	1595	1633
40°	1541	1594	1653
45°	1515	1594	1691
50°	1482	1604	1742
55°	1444	1629	1819
60°	1383	1661	1920
65°	1294	1720	2038
70°	1177	1799	2192
75°	998	1899	2290
80°	787	1911	1853
85°	580	1453	1627



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.2	3.0
10°-20°	325.8	8.6
20°-30°	498.2	13.1
30°-40°	609.1	16.0
40°-50°	649.2	17.1
50°-60°	620.7	16.4
60°-70°	525.8	13.9
70°-80°	353.4	9.3
80°-90°	99.7	2.6
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°	937.2	24.7
0°-40°	1546.3	40.7
0°-60°	2816.2	74.2
0°-90°	3795.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3795.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1193	1193	1193	1193	1193	
5°	1193	1192	1186	1192	1192	113
15°	1152	1152	1150	1160	1158	325
25°	1069	1073	1080	1090	1092	493
35°	949	956	971	990	994	594
45°	796	809	838	873	888	614
55°	616	638	695	749	776	548
65°	407	448	540	612	640	404
75°	192	262	365	427	440	206
85°	38	77	94	102	105	47
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1193.4	1193.4	1193.4	1193.4	1193.4
2.5°	1195.3	1195.3	1189.7	1193.4	1193.4
5°	1193.4	1191.5	1185.9	1191.5	1191.5
7.5°	1187.8	1185.9	1182.1	1187.8	1185.9
10°	1176.5	1176.5	1172.7	1178.4	1178.4
12.5°	1167.1	1165.2	1163.3	1170.8	1168.9
15°	1152.0	1152.0	1150.1	1159.5	1157.7
17.5°	1133.2	1135.1	1136.9	1144.5	1146.4
20°	1112.5	1116.2	1118.1	1129.4	1129.4
22.5°	1093.7	1095.5	1099.3	1110.6	1110.6
25°	1069.2	1072.9	1080.5	1089.9	1091.8
27.5°	1044.7	1046.6	1056.0	1069.2	1071.1
30°	1012.7	1018.4	1029.7	1044.7	1046.6
32.5°	984.5	990.1	1003.3	1018.4	1022.1
35°	948.7	956.2	971.3	990.1	993.9
37.5°	916.7	922.4	941.2	961.9	967.5
40°	877.2	888.5	907.3	931.8	941.2
42.5°	837.7	848.9	871.5	903.5	914.8
45°	796.2	809.4	837.7	873.4	888.5
47.5°	754.8	769.9	801.9	843.3	860.2
50°	707.8	726.6	766.1	813.2	832.0
52.5°	662.6	685.2	728.5	781.2	805.7
55°	615.5	638.1	694.6	749.2	775.5
57.5°	562.8	592.9	655.1	717.2	745.4
60°	513.9	542.1	617.4	685.2	713.4
62.5°	461.2	498.8	579.8	651.3	679.5
65°	406.6	448.0	540.2	611.8	640.0
67.5°	357.6	402.8	500.7	572.2	600.5
70°	299.3	355.8	457.4	528.9	557.2
72.5°	244.7	306.8	412.2	481.9	508.2
75°	192.0	261.6	365.2	427.3	440.5
77.5°	143.1	216.5	316.2	342.6	333.2
80°	101.6	173.2	246.6	233.4	239.1
82.5°	65.9	131.8	152.5	173.2	178.8
85°	37.6	77.2	94.1	101.6	105.4
87.5°	16.9	28.2	37.6	37.6	35.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)