

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: P313342

Luminaire Tested: **24FCZ2-65HE-UNV-L83050-HRP-CA08-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: P313342
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
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-L83050-HRP-CA08-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC 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: 4874.0 lumens
Efficiency: N/A
Efficacy: 90.6 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

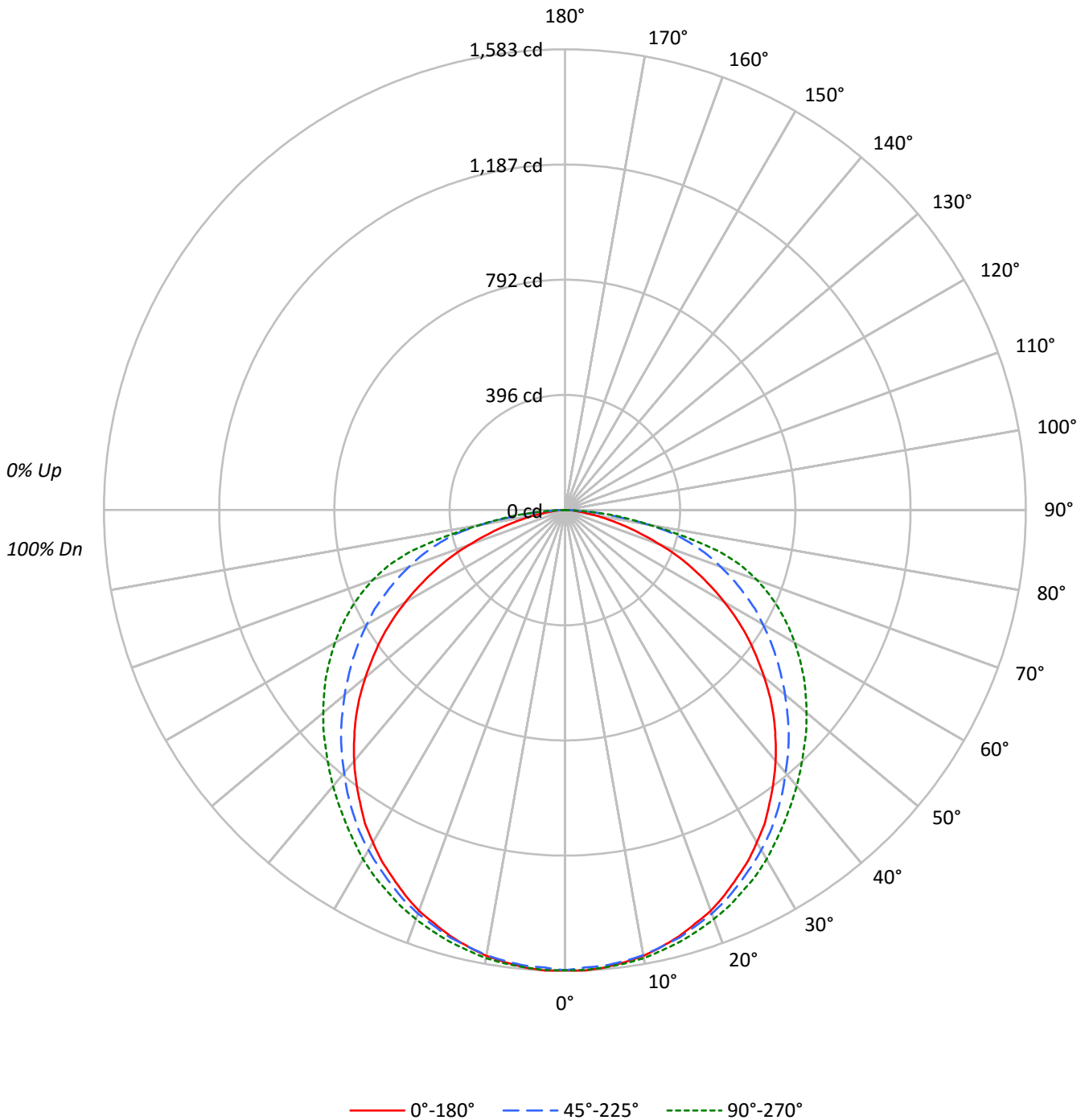
Input Watts (W): 53.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2128	2128	2128
5°	2130	2122	2130
10°	2124	2122	2135
15°	2112	2118	2137
20°	2098	2112	2142
25°	2072	2102	2145
30°	2048	2096	2153
35°	2014	2085	2155
40°	1978	2072	2175
45°	1934	2069	2209
50°	1871	2067	2268
55°	1805	2082	2350
60°	1702	2114	2454
65°	1572	2163	2592
70°	1373	2240	2761
75°	1114	2355	2853
80°	822	2308	2308
85°	630	1701	1922



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.8	3.1
10°-20°	430.2	8.8
20°-30°	654.9	13.4
30°-40°	795.2	16.3
40°-50°	840.1	17.2
50°-60°	792.8	16.3
60°-70°	659.1	13.5
70°-80°	433.6	8.9
80°-90°	118.2	2.4
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°	1234.9	25.3
0°-40°	2030.1	41.7
0°-60°	3663.0	75.2
0°-90°	4874.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4874.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1581	1581	1581	1581	1581	
5°	1577	1577	1571	1577	1577	150
15°	1516	1518	1520	1534	1534	428
25°	1396	1404	1416	1441	1445	644
35°	1226	1241	1269	1302	1312	768
45°	1016	1037	1088	1141	1161	783
55°	769	802	888	971	1002	685
65°	494	551	680	780	814	488
75°	214	312	453	537	549	231
85°	41	90	110	122	124	50
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1581.4	1581.4	1581.4	1581.4	1581.4
2.5°	1583.4	1581.4	1573.2	1581.4	1581.4
5°	1577.3	1577.3	1571.2	1577.3	1577.3
7.5°	1567.1	1567.1	1563.0	1571.2	1571.2
10°	1554.8	1554.8	1552.8	1563.0	1563.0
12.5°	1536.5	1538.5	1536.5	1548.7	1548.7
15°	1516.1	1518.1	1520.2	1534.4	1534.4
17.5°	1489.6	1493.6	1497.7	1514.0	1516.1
20°	1465.1	1467.1	1475.3	1493.6	1495.7
22.5°	1432.4	1438.5	1448.7	1467.1	1473.2
25°	1395.7	1403.9	1416.1	1440.6	1444.7
27.5°	1361.0	1367.1	1383.4	1410.0	1418.1
30°	1318.2	1328.4	1348.8	1375.3	1385.5
32.5°	1277.3	1287.5	1312.0	1340.6	1348.8
35°	1226.3	1240.6	1269.2	1301.8	1312.0
37.5°	1177.4	1191.6	1226.3	1263.1	1275.3
40°	1126.3	1142.7	1179.4	1222.2	1238.6
42.5°	1071.3	1093.7	1134.5	1181.4	1199.8
45°	1016.2	1036.6	1087.6	1140.6	1161.0
47.5°	957.0	981.5	1036.6	1099.8	1124.3
50°	893.7	924.3	987.6	1057.0	1083.5
52.5°	830.5	865.2	936.6	1014.1	1042.7
55°	769.3	801.9	887.6	971.3	1001.9
57.5°	701.9	742.7	836.6	926.4	957.0
60°	632.5	677.4	785.6	879.4	912.1
62.5°	563.2	614.2	736.6	830.5	865.2
65°	493.8	550.9	679.5	779.5	814.2
67.5°	426.5	489.7	626.4	726.4	761.1
70°	348.9	428.5	569.3	667.2	701.9
72.5°	277.5	369.3	514.2	606.0	636.6
75°	214.3	312.2	453.0	536.6	548.9
77.5°	157.1	255.1	389.7	418.3	420.3
80°	106.1	204.0	297.9	293.8	297.9
82.5°	69.4	153.0	187.7	210.2	212.2
85°	40.8	89.8	110.2	122.4	124.5
87.5°	20.4	30.6	38.8	40.8	44.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)