

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: P309685

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-HRP-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: P309685
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-L82765-HRP-CA08-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. 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: 4668.0 lumens
Efficiency: N/A
Efficacy: 86.8 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

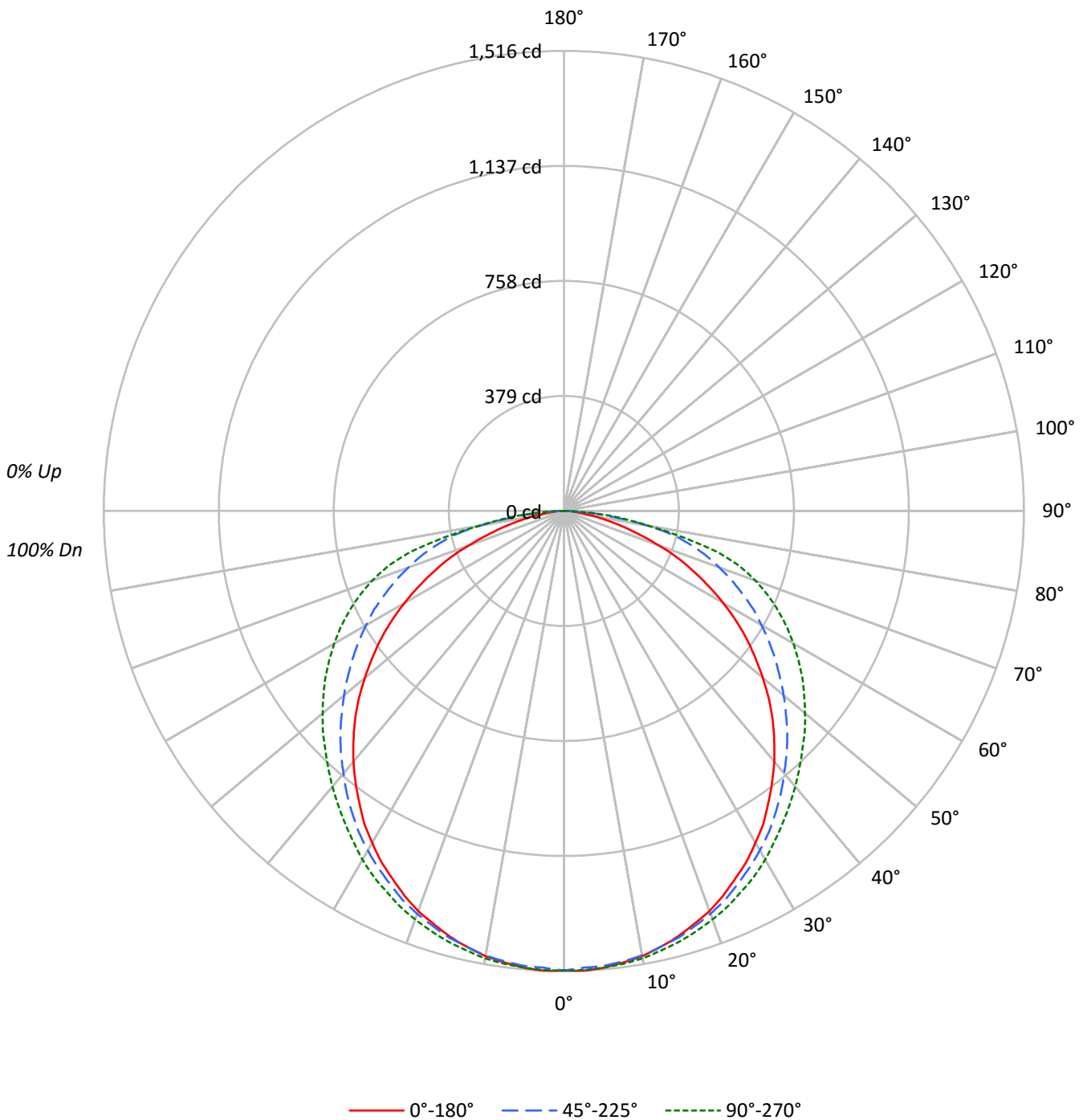
Input Watts (W): 53.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2038	2038	2038
5°	2040	2032	2040
10°	2034	2032	2045
15°	2023	2028	2047
20°	2009	2023	2051
25°	1984	2013	2054
30°	1961	2007	2062
35°	1929	1997	2064
40°	1895	1984	2083
45°	1852	1982	2116
50°	1792	1980	2172
55°	1728	1994	2251
60°	1630	2025	2351
65°	1506	2072	2482
70°	1315	2145	2645
75°	1067	2255	2733
80°	787	2211	2211
85°	604	1629	1840



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	143.5	3.1
10°-20°	412.0	8.8
20°-30°	627.2	13.4
30°-40°	761.6	16.3
40°-50°	804.6	17.2
50°-60°	759.2	16.3
60°-70°	631.3	13.5
70°-80°	415.3	8.9
80°-90°	113.2	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°	1182.7	25.3
0°-40°	1944.3	41.7
0°-60°	3508.2	75.2
0°-90°	4668.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4668.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1514	1514	1514	1514	1514	
5°	1511	1511	1505	1511	1511	143
15°	1452	1454	1456	1470	1470	409
25°	1337	1344	1356	1380	1384	617
35°	1174	1188	1216	1247	1257	735
45°	973	993	1042	1092	1112	749
55°	737	768	850	930	960	656
65°	473	528	651	746	780	467
75°	205	299	434	514	526	221
85°	39	86	106	117	119	48
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1514.5	1514.5	1514.5	1514.5	1514.5
2.5°	1516.5	1514.5	1506.7	1514.5	1514.5
5°	1510.6	1510.6	1504.8	1510.6	1510.6
7.5°	1500.9	1500.9	1496.9	1504.8	1504.8
10°	1489.1	1489.1	1487.2	1496.9	1496.9
12.5°	1471.5	1473.5	1471.5	1483.3	1483.3
15°	1452.0	1454.0	1455.9	1469.6	1469.6
17.5°	1426.6	1430.5	1434.4	1450.0	1452.0
20°	1403.1	1405.1	1412.9	1430.5	1432.5
22.5°	1371.9	1377.7	1387.5	1405.1	1411.0
25°	1336.7	1344.5	1356.2	1379.7	1383.6
27.5°	1303.5	1309.3	1325.0	1350.4	1358.2
30°	1262.4	1272.2	1291.8	1317.2	1326.9
32.5°	1223.4	1233.1	1256.6	1283.9	1291.8
35°	1174.5	1188.2	1215.5	1246.8	1256.6
37.5°	1127.6	1141.3	1174.5	1209.7	1221.4
40°	1078.7	1094.4	1129.6	1170.6	1186.2
42.5°	1026.0	1047.5	1086.6	1131.5	1149.1
45°	973.2	992.8	1041.6	1092.4	1112.0
47.5°	916.5	940.0	992.8	1053.3	1076.8
50°	856.0	885.3	945.9	1012.3	1037.7
52.5°	795.4	828.6	897.0	971.3	998.6
55°	736.7	768.0	850.1	930.2	959.5
57.5°	672.3	711.3	801.2	887.2	916.5
60°	605.8	648.8	752.4	842.3	873.5
62.5°	539.4	588.2	705.5	795.4	828.6
65°	472.9	527.6	650.8	746.5	779.7
67.5°	408.4	469.0	600.0	695.7	728.9
70°	334.2	410.4	545.2	639.0	672.3
72.5°	265.8	353.7	492.5	580.4	609.7
75°	205.2	299.0	433.8	514.0	525.7
77.5°	150.5	244.3	373.3	400.6	402.6
80°	101.6	195.4	285.3	281.4	285.3
82.5°	66.4	146.6	179.8	201.3	203.2
85°	39.1	86.0	105.5	117.3	119.2
87.5°	19.5	29.3	37.1	39.1	43.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)