

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: P309681

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-HRP-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: P309681
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-3000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 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: 4280.0 lumens
Efficiency: N/A
Efficacy: 82.0 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

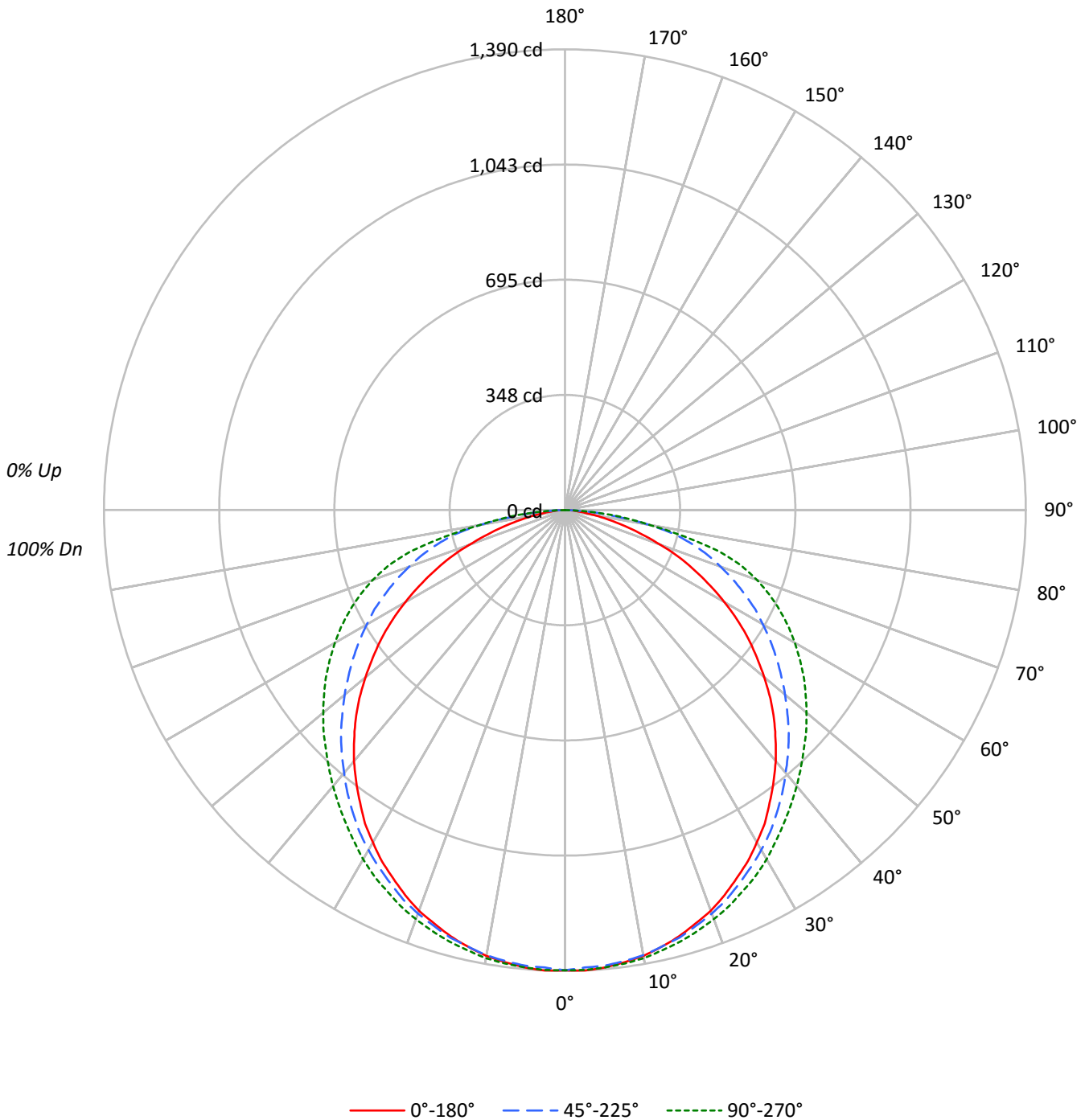
Input Watts (W): 52.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1868	1868	1868
5°	1871	1863	1871
10°	1865	1863	1875
15°	1854	1859	1877
20°	1842	1855	1881
25°	1820	1846	1883
30°	1798	1840	1890
35°	1769	1831	1892
40°	1737	1819	1910
45°	1698	1817	1940
50°	1643	1815	1991
55°	1585	1828	2064
60°	1495	1856	2155
65°	1380	1900	2276
70°	1205	1967	2425
75°	978	2068	2506
80°	722	2027	2027
85°	553	1494	1687



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.5	3.1
10°-20°	377.8	8.8
20°-30°	575.1	13.4
30°-40°	698.3	16.3
40°-50°	737.7	17.2
50°-60°	696.1	16.3
60°-70°	578.8	13.5
70°-80°	380.8	8.9
80°-90°	103.8	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°	1084.4	25.3
0°-40°	1782.7	41.7
0°-60°	3216.6	75.2
0°-90°	4280.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4280.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1389	1389	1389	1389	1389	
5°	1385	1385	1380	1385	1385	132
15°	1331	1333	1335	1347	1347	375
25°	1226	1233	1244	1265	1269	565
35°	1077	1089	1114	1143	1152	674
45°	892	910	955	1002	1020	687
55°	676	704	779	853	880	602
65°	434	484	597	684	715	429
75°	188	274	398	471	482	203
85°	36	79	97	108	109	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1388.6	1388.6	1388.6	1388.6	1388.6
2.5°	1390.4	1388.6	1381.5	1388.6	1388.6
5°	1385.1	1385.1	1379.7	1385.1	1385.1
7.5°	1376.1	1376.1	1372.5	1379.7	1379.7
10°	1365.4	1365.4	1363.6	1372.5	1372.5
12.5°	1349.2	1351.0	1349.2	1360.0	1360.0
15°	1331.3	1333.1	1334.9	1347.4	1347.4
17.5°	1308.0	1311.6	1315.2	1329.5	1331.3
20°	1286.5	1288.3	1295.5	1311.6	1313.4
22.5°	1257.8	1263.2	1272.2	1288.3	1293.7
25°	1225.6	1232.8	1243.5	1265.0	1268.6
27.5°	1195.1	1200.5	1214.8	1238.1	1245.3
30°	1157.5	1166.5	1184.4	1207.7	1216.6
32.5°	1121.7	1130.6	1152.1	1177.2	1184.4
35°	1076.9	1089.4	1114.5	1143.2	1152.1
37.5°	1033.9	1046.4	1076.9	1109.1	1119.9
40°	989.1	1003.4	1035.7	1073.3	1087.6
42.5°	940.7	960.4	996.2	1037.5	1053.6
45°	892.3	910.2	955.0	1001.6	1019.5
47.5°	840.4	861.9	910.2	965.8	987.3
50°	784.8	811.7	867.2	928.2	951.4
52.5°	729.3	759.7	822.4	890.5	915.6
55°	675.5	704.2	779.4	852.9	879.8
57.5°	616.4	652.2	734.6	813.5	840.4
60°	555.5	594.9	689.8	772.3	800.9
62.5°	494.5	539.3	646.8	729.3	759.7
65°	433.6	483.8	596.7	684.5	714.9
67.5°	374.5	430.0	550.1	637.9	668.3
70°	306.4	376.3	499.9	585.9	616.4
72.5°	243.7	324.3	451.5	532.2	559.0
75°	188.1	274.1	397.8	471.2	482.0
77.5°	138.0	224.0	342.2	367.3	369.1
80°	93.2	179.2	261.6	258.0	261.6
82.5°	60.9	134.4	164.8	184.6	186.3
85°	35.8	78.8	96.8	107.5	109.3
87.5°	17.9	26.9	34.0	35.8	39.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)