

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: P309682

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-HRP-CA08-W2A-U-3500K**

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: P309682
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-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 3500K 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: 4428.0 lumens
Efficiency: N/A
Efficacy: 83.9 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

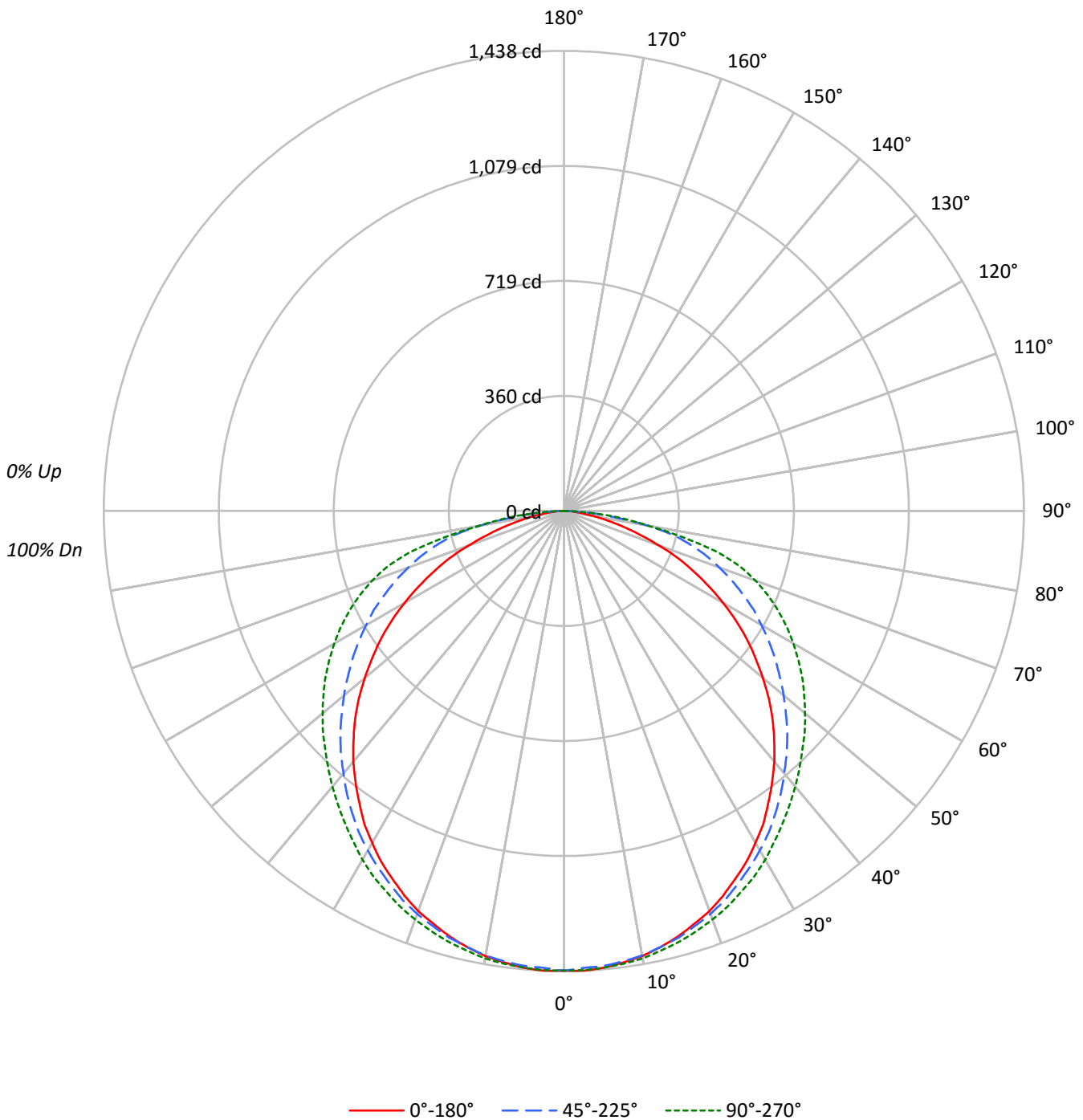
Input Watts (W): 52.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1933	1933	1933
5°	1935	1928	1935
10°	1930	1927	1940
15°	1919	1924	1942
20°	1906	1919	1946
25°	1882	1910	1949
30°	1860	1904	1956
35°	1830	1894	1958
40°	1797	1882	1976
45°	1757	1880	2007
50°	1699	1878	2060
55°	1639	1892	2135
60°	1547	1921	2230
65°	1428	1965	2355
70°	1247	2035	2509
75°	1012	2139	2593
80°	747	2097	2097
85°	573	1545	1746



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.1	3.1
10°-20°	390.8	8.8
20°-30°	595.0	13.4
30°-40°	722.4	16.3
40°-50°	763.3	17.2
50°-60°	720.2	16.3
60°-70°	598.8	13.5
70°-80°	394.0	8.9
80°-90°	107.4	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°	1121.9	25.3
0°-40°	1844.3	41.7
0°-60°	3327.8	75.2
0°-90°	4428.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4428.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1437	1437	1437	1437	1437	
5°	1433	1433	1427	1433	1433	136
15°	1377	1379	1381	1394	1394	388
25°	1268	1275	1286	1309	1312	585
35°	1114	1127	1153	1183	1192	697
45°	923	942	988	1036	1055	711
55°	699	728	806	882	910	622
65°	449	500	617	708	740	443
75°	195	284	412	488	499	210
85°	37	82	100	111	113	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1436.7	1436.7	1436.7	1436.7	1436.7
2.5°	1438.5	1436.7	1429.3	1436.7	1436.7
5°	1433.0	1433.0	1427.4	1433.0	1433.0
7.5°	1423.7	1423.7	1420.0	1427.4	1427.4
10°	1412.6	1412.6	1410.7	1420.0	1420.0
12.5°	1395.9	1397.7	1395.9	1407.0	1407.0
15°	1377.3	1379.2	1381.1	1394.0	1394.0
17.5°	1353.2	1357.0	1360.7	1375.5	1377.3
20°	1331.0	1332.9	1340.3	1357.0	1358.8
22.5°	1301.3	1306.9	1316.2	1332.9	1338.4
25°	1268.0	1275.4	1286.5	1308.8	1312.5
27.5°	1236.5	1242.0	1256.9	1281.0	1288.4
30°	1197.5	1206.8	1225.3	1249.4	1258.7
32.5°	1160.5	1169.7	1192.0	1217.9	1225.3
35°	1114.1	1127.1	1153.0	1182.7	1192.0
37.5°	1069.6	1082.6	1114.1	1147.5	1158.6
40°	1023.3	1038.1	1071.5	1110.4	1125.2
42.5°	973.2	993.6	1030.7	1073.3	1090.0
45°	923.2	941.7	988.1	1036.3	1054.8
47.5°	869.4	891.7	941.7	999.2	1021.4
50°	811.9	839.8	897.2	960.3	984.3
52.5°	754.5	786.0	850.9	921.3	947.3
55°	698.9	728.5	806.4	882.4	910.2
57.5°	637.7	674.8	760.0	841.6	869.4
60°	574.7	615.5	713.7	799.0	828.6
62.5°	511.6	558.0	669.2	754.5	786.0
65°	448.6	500.5	617.3	708.1	739.7
67.5°	387.4	444.9	569.1	659.9	691.5
70°	317.0	389.3	517.2	606.2	637.7
72.5°	252.1	335.5	467.1	550.6	578.4
75°	194.6	283.6	411.5	487.5	498.7
77.5°	142.7	231.7	354.1	380.0	381.9
80°	96.4	185.4	270.6	266.9	270.6
82.5°	63.0	139.0	170.5	190.9	192.8
85°	37.1	81.6	100.1	111.2	113.1
87.5°	18.5	27.8	35.2	37.1	40.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)