

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: P313340

Luminaire Tested: **24FCZ2-65HE-UNV-L83050-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: P313340
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-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: 4387.0 lumens
Efficiency: N/A
Efficacy: 83.6 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

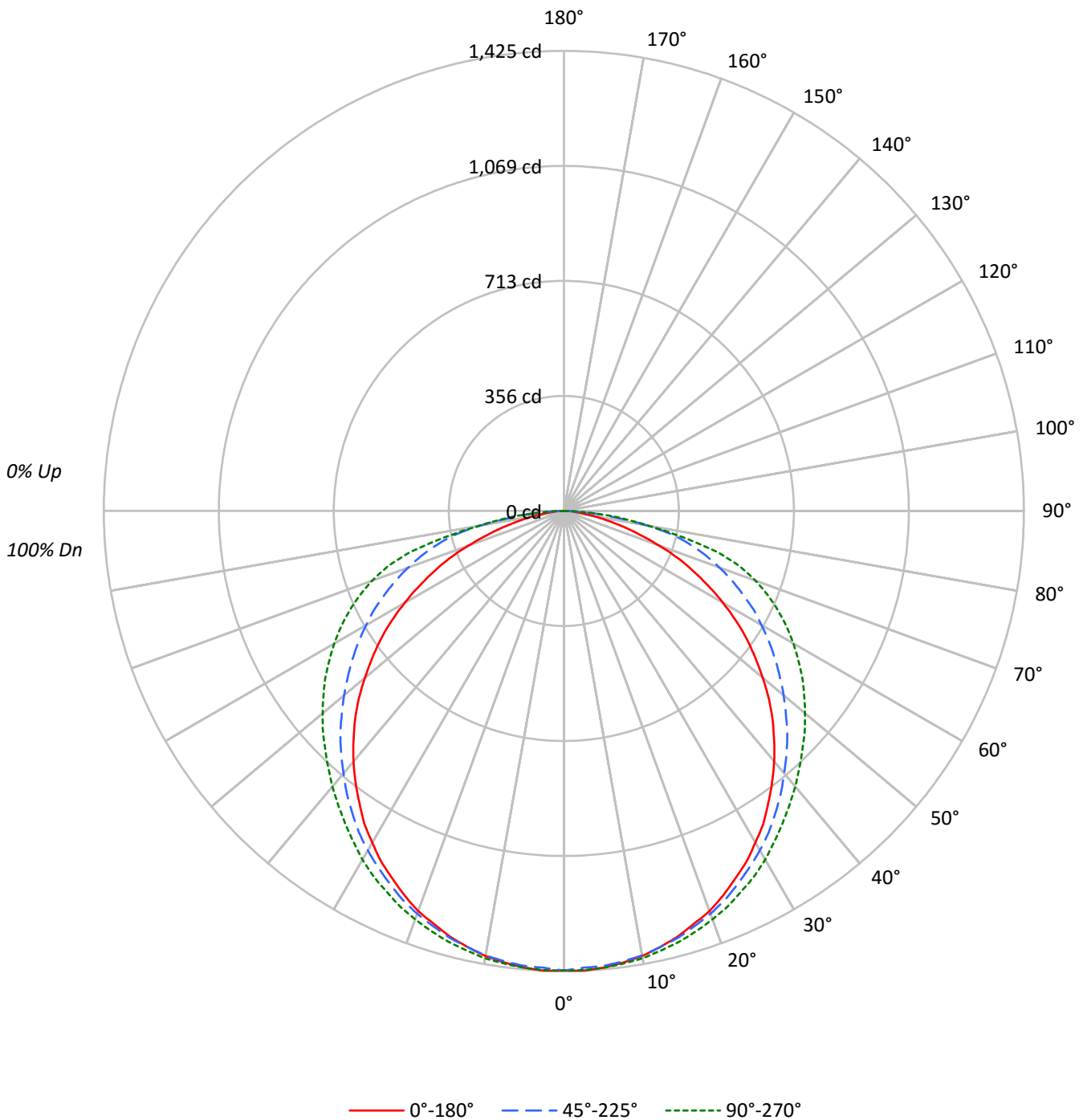
Input Watts (W): 52.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1915	1915	1915
5°	1917	1910	1917
10°	1912	1910	1922
15°	1901	1906	1924
20°	1888	1901	1928
25°	1865	1892	1930
30°	1843	1886	1938
35°	1813	1876	1940
40°	1781	1865	1958
45°	1740	1863	1988
50°	1684	1861	2041
55°	1624	1874	2115
60°	1532	1903	2209
65°	1415	1947	2333
70°	1236	2016	2485
75°	1002	2119	2568
80°	740	2077	2077
85°	567	1531	1729



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.8	3.1
10°-20°	387.2	8.8
20°-30°	589.5	13.4
30°-40°	715.8	16.3
40°-50°	756.2	17.2
50°-60°	713.5	16.3
60°-70°	593.3	13.5
70°-80°	390.3	8.9
80°-90°	106.4	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°	1111.5	25.3
0°-40°	1827.3	41.7
0°-60°	3297.0	75.2
0°-90°	4387.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4387.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1423	1423	1423	1423	1423	
5°	1420	1420	1414	1420	1420	135
15°	1365	1366	1368	1381	1381	385
25°	1256	1264	1275	1297	1300	579
35°	1104	1117	1142	1172	1181	691
45°	915	933	979	1027	1045	704
55°	692	722	799	874	902	617
65°	444	496	612	702	733	439
75°	193	281	408	483	494	208
85°	37	81	99	110	112	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1423.4	1423.4	1423.4	1423.4	1423.4
2.5°	1425.2	1423.4	1416.0	1423.4	1423.4
5°	1419.7	1419.7	1414.2	1419.7	1419.7
7.5°	1410.5	1410.5	1406.8	1414.2	1414.2
10°	1399.5	1399.5	1397.7	1406.8	1406.8
12.5°	1383.0	1384.8	1383.0	1394.0	1394.0
15°	1364.6	1366.4	1368.3	1381.1	1381.1
17.5°	1340.7	1344.4	1348.1	1362.8	1364.6
20°	1318.7	1320.5	1327.9	1344.4	1346.2
22.5°	1289.3	1294.8	1304.0	1320.5	1326.0
25°	1256.2	1263.6	1274.6	1296.6	1300.3
27.5°	1225.0	1230.5	1245.2	1269.1	1276.4
30°	1186.4	1195.6	1214.0	1237.9	1247.1
32.5°	1149.7	1158.9	1180.9	1206.6	1214.0
35°	1103.8	1116.7	1142.4	1171.8	1180.9
37.5°	1059.7	1072.6	1103.8	1136.9	1147.9
40°	1013.8	1028.5	1061.6	1100.1	1114.8
42.5°	964.2	984.4	1021.2	1063.4	1079.9
45°	914.6	933.0	978.9	1026.7	1045.0
47.5°	861.4	883.4	933.0	989.9	1012.0
50°	804.4	832.0	888.9	951.4	975.2
52.5°	747.5	778.7	843.0	912.8	938.5
55°	692.4	721.8	798.9	874.2	901.8
57.5°	631.8	668.5	753.0	833.8	861.4
60°	569.3	609.8	707.1	791.6	821.0
62.5°	506.9	552.8	663.0	747.5	778.7
65°	444.5	495.9	611.6	701.6	732.8
67.5°	383.8	440.8	563.8	653.8	685.1
70°	314.1	385.7	512.4	600.6	631.8
72.5°	249.8	332.4	462.8	545.5	573.0
75°	192.8	281.0	407.7	483.0	494.0
77.5°	141.4	229.6	350.8	376.5	378.3
80°	95.5	183.7	268.1	264.5	268.1
82.5°	62.4	137.7	169.0	189.2	191.0
85°	36.7	80.8	99.2	110.2	112.0
87.5°	18.4	27.5	34.9	36.7	40.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)