

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: P309684

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-HRP-CA08-W2A-U-4500K**

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: P309684
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-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 4500K 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: 4605.0 lumens
Efficiency: N/A
Efficacy: 85.9 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

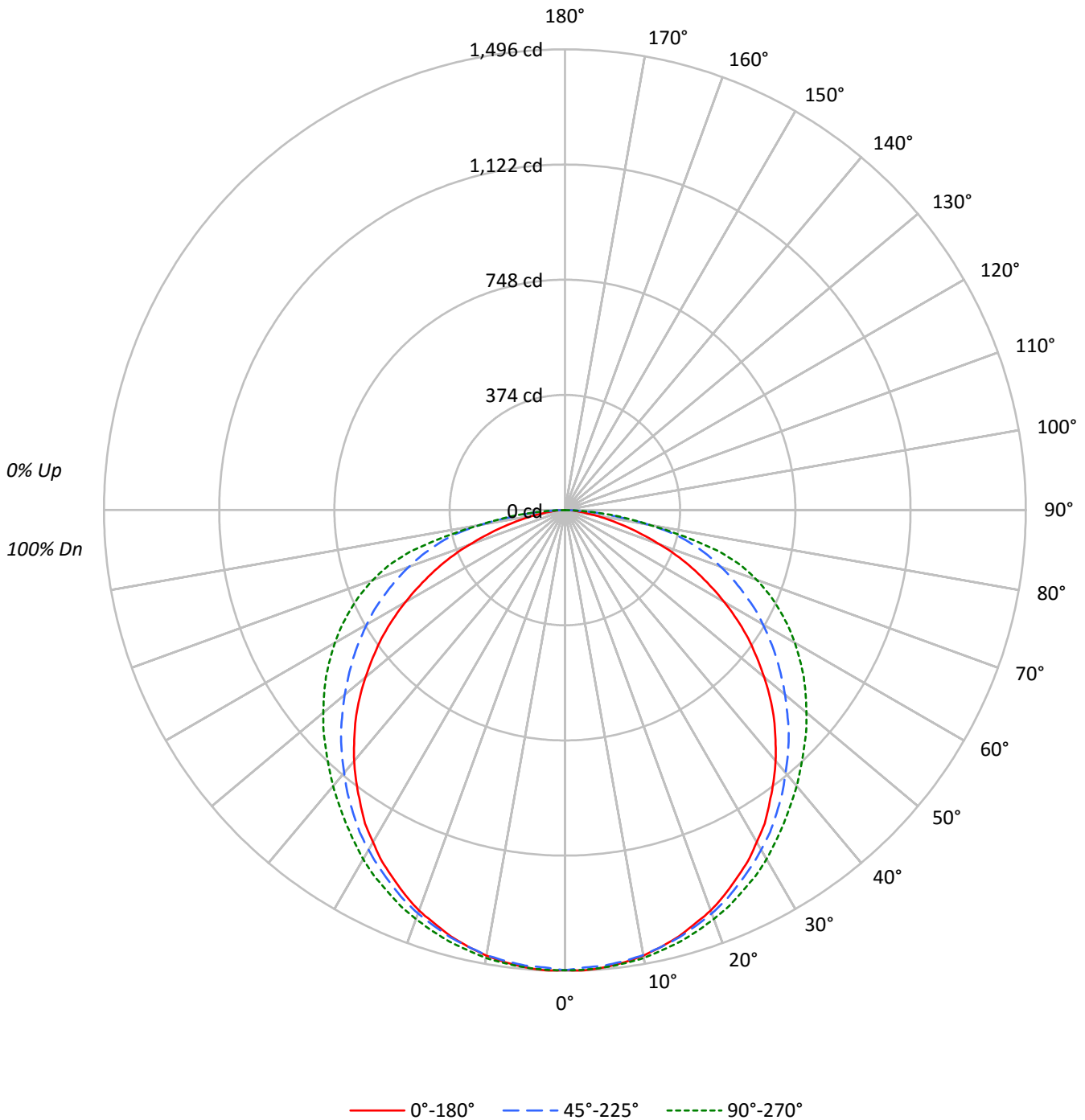
Input Watts (W): 53.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2010	2010	2010
5°	2013	2005	2013
10°	2007	2004	2018
15°	1995	2001	2020
20°	1982	1996	2023
25°	1958	1986	2026
30°	1935	1980	2034
35°	1903	1970	2036
40°	1869	1957	2055
45°	1827	1955	2087
50°	1768	1953	2143
55°	1705	1967	2221
60°	1608	1997	2319
65°	1485	2044	2449
70°	1297	2116	2609
75°	1052	2225	2696
80°	776	2181	2181
85°	596	1607	1815



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.5	3.1
10°-20°	406.4	8.8
20°-30°	618.8	13.4
30°-40°	751.3	16.3
40°-50°	793.8	17.2
50°-60°	749.0	16.3
60°-70°	622.8	13.5
70°-80°	409.7	8.9
80°-90°	111.7	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°	1166.7	25.3
0°-40°	1918.0	41.7
0°-60°	3460.8	75.2
0°-90°	4605.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4605.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1494	1494	1494	1494	1494	
5°	1490	1490	1484	1490	1490	142
15°	1432	1434	1436	1450	1450	404
25°	1319	1326	1338	1361	1365	608
35°	1159	1172	1199	1230	1240	725
45°	960	979	1028	1078	1097	739
55°	727	758	839	918	947	647
65°	466	520	642	736	769	461
75°	202	295	428	507	519	218
85°	39	85	104	116	118	47
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1494.1	1494.1	1494.1	1494.1	1494.1
2.5°	1496.0	1494.1	1486.4	1494.1	1494.1
5°	1490.2	1490.2	1484.5	1490.2	1490.2
7.5°	1480.6	1480.6	1476.7	1484.5	1484.5
10°	1469.0	1469.0	1467.1	1476.7	1476.7
12.5°	1451.7	1453.6	1451.7	1463.2	1463.2
15°	1432.4	1434.3	1436.3	1449.8	1449.8
17.5°	1407.3	1411.2	1415.1	1430.5	1432.4
20°	1384.2	1386.1	1393.8	1411.2	1413.1
22.5°	1353.4	1359.1	1368.8	1386.1	1391.9
25°	1318.7	1326.4	1337.9	1361.1	1364.9
27.5°	1285.9	1291.7	1307.1	1332.2	1339.9
30°	1245.4	1255.0	1274.3	1299.4	1309.0
32.5°	1206.8	1216.5	1239.6	1266.6	1274.3
35°	1158.6	1172.1	1199.1	1230.0	1239.6
37.5°	1112.4	1125.9	1158.6	1193.3	1204.9
40°	1064.2	1079.6	1114.3	1154.8	1170.2
42.5°	1012.1	1033.3	1071.9	1116.2	1133.6
45°	960.1	979.4	1027.6	1077.7	1097.0
47.5°	904.2	927.3	979.4	1039.1	1062.3
50°	844.4	873.3	933.1	998.6	1023.7
52.5°	784.6	817.4	884.9	958.1	985.1
55°	726.8	757.7	838.6	917.7	946.6
57.5°	663.2	701.7	790.4	875.3	904.2
60°	597.6	640.1	742.2	830.9	861.8
62.5°	532.1	580.3	696.0	784.6	817.4
65°	466.5	520.5	642.0	736.4	769.2
67.5°	402.9	462.7	591.9	686.3	719.1
70°	329.7	404.9	537.9	630.4	663.2
72.5°	262.2	348.9	485.8	572.6	601.5
75°	202.4	295.0	428.0	507.0	518.6
77.5°	148.4	241.0	368.2	395.2	397.1
80°	100.2	192.8	281.5	277.6	281.5
82.5°	65.5	144.6	177.4	198.6	200.5
85°	38.6	84.8	104.1	115.7	117.6
87.5°	19.3	28.9	36.6	38.6	42.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)