

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: P313358

Luminaire Tested: **24FCZ2-65HE-UNV-L83050-HRP-CP187-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: P313358
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-CP187-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB 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: 4604.0 lumens
Efficiency: N/A
Efficacy: 83.4 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

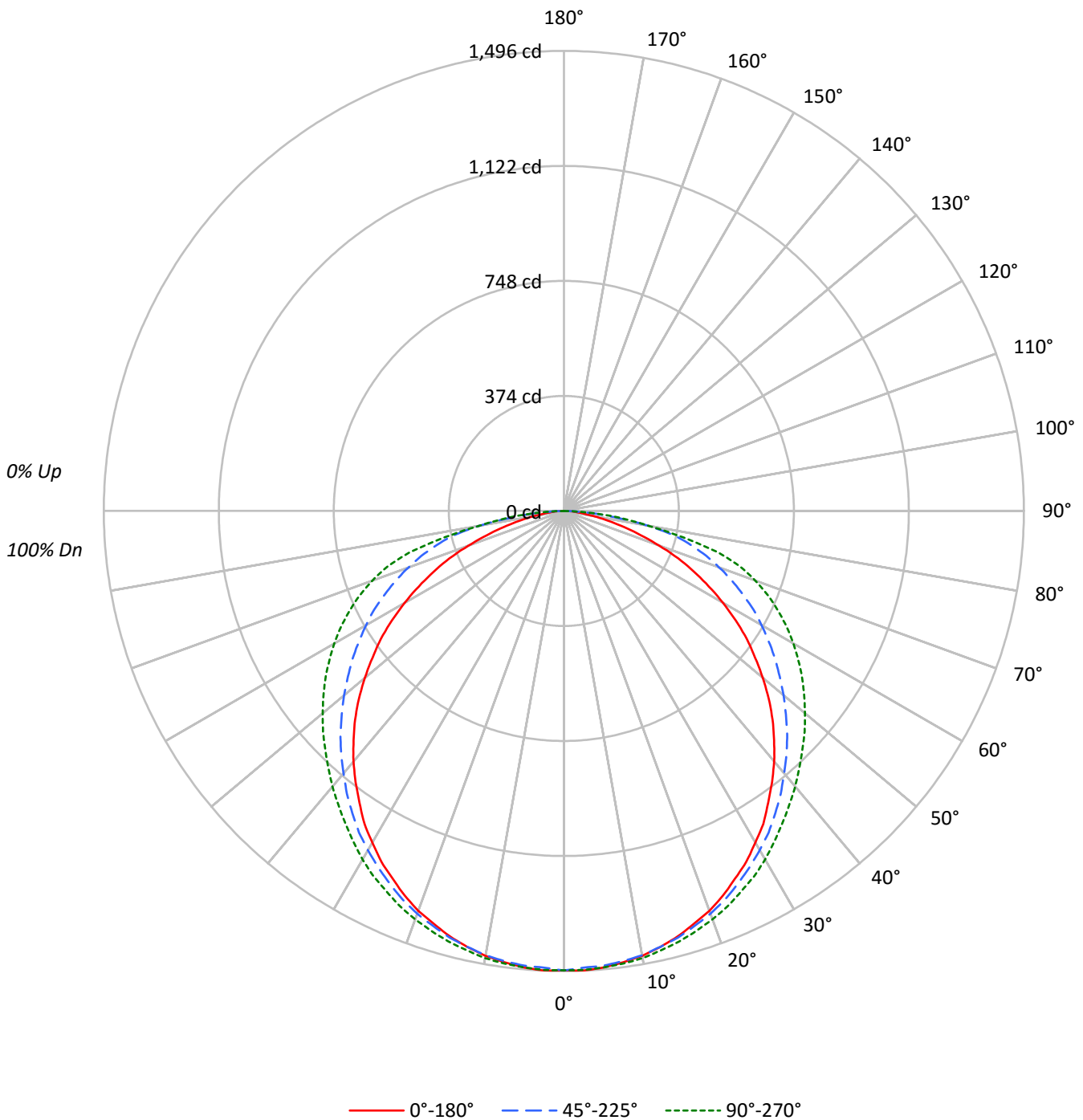
Input Watts (W): 55.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2010	2010	2010
5°	2012	2004	2012
10°	2007	2004	2017
15°	1995	2000	2019
20°	1982	1995	2023
25°	1957	1986	2026
30°	1934	1979	2033
35°	1903	1969	2036
40°	1869	1957	2055
45°	1827	1955	2087
50°	1767	1953	2142
55°	1704	1967	2220
60°	1608	1997	2319
65°	1485	2043	2449
70°	1297	2116	2608
75°	1052	2224	2695
80°	776	2180	2180
85°	594	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°	618.6	13.4
30°-40°	751.2	16.3
40°-50°	793.6	17.2
50°-60°	748.8	16.3
60°-70°	622.6	13.5
70°-80°	409.6	8.9
80°-90°	111.6	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°	1166.5	25.3
0°-40°	1917.6	41.7
0°-60°	3460.1	75.2
0°-90°	4604.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4604.0	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	1449	1449	404
25°	1318	1326	1338	1361	1365	608
35°	1158	1172	1199	1230	1239	725
45°	960	979	1027	1077	1097	739
55°	727	758	838	918	946	647
65°	466	520	642	736	769	461
75°	202	295	428	507	518	218
85°	38	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°	1493.8	1493.8	1493.8	1493.8	1493.8
2.5°	1495.7	1493.8	1486.1	1493.8	1493.8
5°	1489.9	1489.9	1484.1	1489.9	1489.9
7.5°	1480.3	1480.3	1476.4	1484.1	1484.1
10°	1468.7	1468.7	1466.8	1476.4	1476.4
12.5°	1451.4	1453.3	1451.4	1462.9	1462.9
15°	1432.1	1434.0	1435.9	1449.4	1449.4
17.5°	1407.0	1410.9	1414.7	1430.2	1432.1
20°	1383.9	1385.8	1393.5	1410.9	1412.8
22.5°	1353.1	1358.9	1368.5	1385.8	1391.6
25°	1318.4	1326.1	1337.6	1360.8	1364.6
27.5°	1285.6	1291.4	1306.8	1331.9	1339.6
30°	1245.1	1254.8	1274.0	1299.1	1308.7
32.5°	1206.6	1216.2	1239.3	1266.3	1274.0
35°	1158.4	1171.9	1198.9	1229.7	1239.3
37.5°	1112.1	1125.6	1158.4	1193.1	1204.7
40°	1064.0	1079.4	1114.1	1154.5	1170.0
42.5°	1011.9	1033.1	1071.7	1116.0	1133.3
45°	959.9	979.1	1027.3	1077.4	1096.7
47.5°	904.0	927.1	979.1	1038.9	1062.0
50°	844.2	873.1	932.9	998.4	1023.5
52.5°	784.5	817.2	884.7	957.9	984.9
55°	726.6	757.5	838.4	917.5	946.4
57.5°	663.0	701.6	790.3	875.1	904.0
60°	597.5	639.9	742.1	830.7	861.6
62.5°	532.0	580.2	695.8	784.5	817.2
65°	466.4	520.4	641.8	736.3	769.1
67.5°	402.8	462.6	591.7	686.2	718.9
70°	329.6	404.8	537.8	630.3	663.0
72.5°	262.1	348.9	485.7	572.5	601.4
75°	202.4	294.9	427.9	506.9	518.5
77.5°	148.4	240.9	368.1	395.1	397.1
80°	100.2	192.7	281.4	277.6	281.4
82.5°	65.5	144.6	177.3	198.5	200.5
85°	38.5	84.8	104.1	115.6	117.6
87.5°	19.3	28.9	36.6	38.5	42.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)