

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: P313355

Luminaire Tested: **24FCZ2-65HE-UNV-L83050-HRP-CP187-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: P313355
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-3000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187" POLYCARB 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: 4105.0 lumens
Efficiency: N/A
Efficacy: 78.2 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

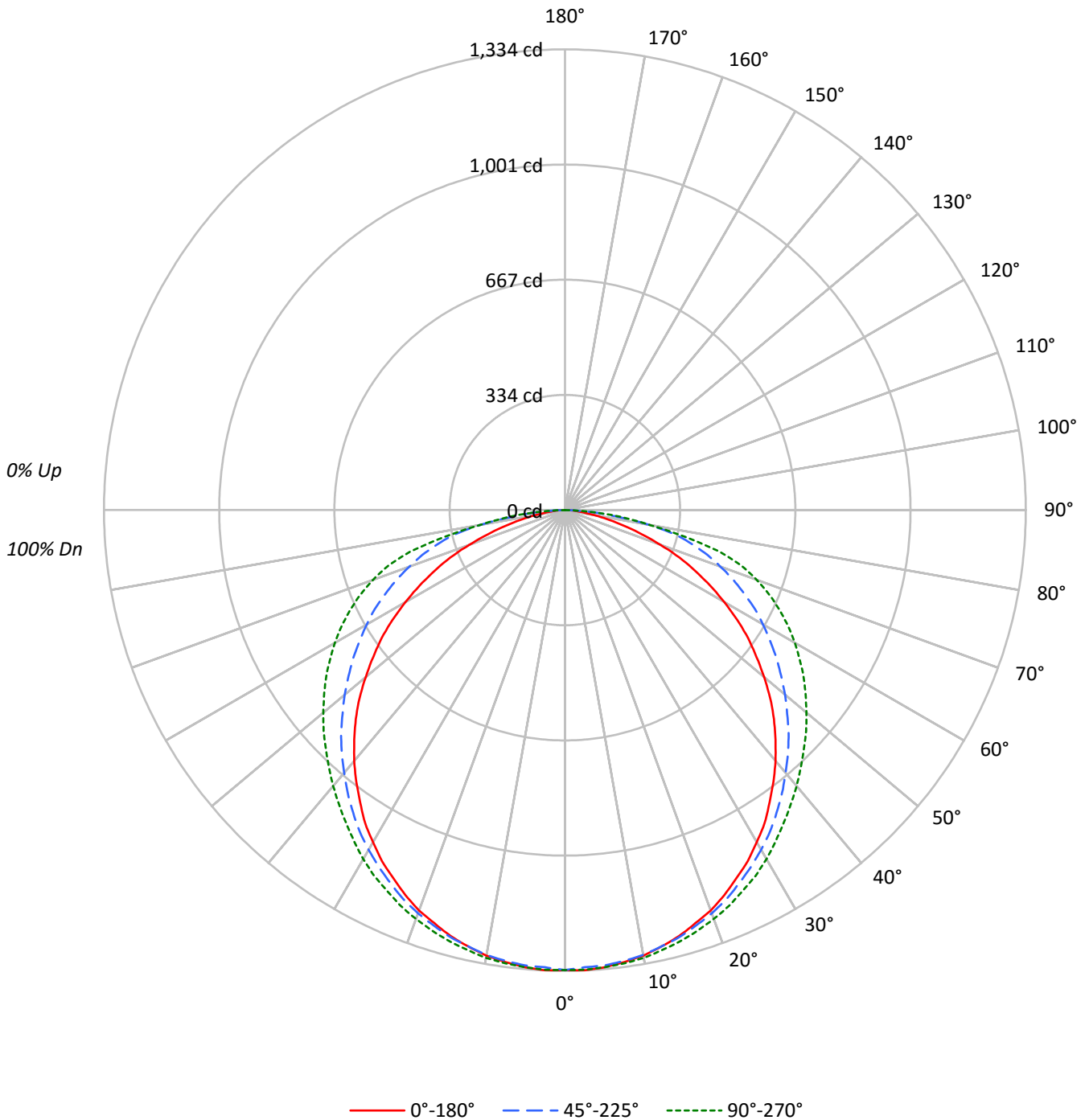
Input Watts (W): 52.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1792	1792	1792
5°	1794	1787	1794
10°	1789	1787	1799
15°	1779	1783	1800
20°	1767	1779	1804
25°	1745	1771	1806
30°	1725	1765	1813
35°	1696	1756	1815
40°	1666	1745	1832
45°	1628	1743	1861
50°	1576	1741	1910
55°	1520	1754	1979
60°	1433	1780	2067
65°	1324	1822	2183
70°	1156	1886	2326
75°	938	1983	2403
80°	693	1944	1944
85°	531	1433	1618



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.2	3.1
10°-20°	362.3	8.8
20°-30°	551.6	13.4
30°-40°	669.7	16.3
40°-50°	707.6	17.2
50°-60°	667.7	16.3
60°-70°	555.2	13.5
70°-80°	365.2	8.9
80°-90°	99.6	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°	1040.1	25.3
0°-40°	1709.8	41.7
0°-60°	3085.1	75.2
0°-90°	4105.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4105.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1332	1332	1332	1332	1332	
5°	1328	1328	1323	1328	1328	126
15°	1277	1279	1280	1292	1292	360
25°	1176	1182	1193	1213	1217	542
35°	1033	1045	1069	1096	1105	647
45°	856	873	916	961	978	659
55°	648	675	748	818	844	577
65°	416	464	572	656	686	411
75°	180	263	382	452	462	194
85°	34	76	93	103	105	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1331.9	1331.9	1331.9	1331.9	1331.9
2.5°	1333.6	1331.9	1325.0	1331.9	1331.9
5°	1328.4	1328.4	1323.3	1328.4	1328.4
7.5°	1319.8	1319.8	1316.4	1323.3	1323.3
10°	1309.5	1309.5	1307.8	1316.4	1316.4
12.5°	1294.1	1295.8	1294.1	1304.4	1304.4
15°	1276.9	1278.6	1280.3	1292.3	1292.3
17.5°	1254.5	1258.0	1261.4	1275.2	1276.9
20°	1233.9	1235.6	1242.5	1258.0	1259.7
22.5°	1206.4	1211.6	1220.2	1235.6	1240.8
25°	1175.5	1182.4	1192.7	1213.3	1216.7
27.5°	1146.3	1151.4	1165.2	1187.5	1194.4
30°	1110.2	1118.8	1136.0	1158.3	1166.9
32.5°	1075.8	1084.4	1105.0	1129.1	1136.0
35°	1032.8	1044.9	1068.9	1096.4	1105.0
37.5°	991.6	1003.6	1032.8	1063.8	1074.1
40°	948.6	962.4	993.3	1029.4	1043.2
42.5°	902.2	921.1	955.5	995.0	1010.5
45°	855.8	873.0	916.0	960.7	977.9
47.5°	806.0	826.6	873.0	926.3	946.9
50°	752.7	778.5	831.8	890.2	912.5
52.5°	699.4	728.7	788.8	854.1	878.2
55°	647.9	675.4	747.6	818.0	843.8
57.5°	591.2	625.5	704.6	780.2	806.0
60°	532.7	570.6	661.6	740.7	768.2
62.5°	474.3	517.3	620.4	699.4	728.7
65°	415.9	464.0	572.3	656.5	685.7
67.5°	359.2	412.5	527.6	611.8	641.0
70°	293.9	360.9	479.5	562.0	591.2
72.5°	233.7	311.1	433.1	510.4	536.2
75°	180.4	262.9	381.5	452.0	462.3
77.5°	132.3	214.8	328.2	352.3	354.0
80°	89.4	171.9	250.9	247.5	250.9
82.5°	58.4	128.9	158.1	177.0	178.7
85°	34.4	75.6	92.8	103.1	104.8
87.5°	17.2	25.8	32.7	34.4	37.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)