

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: P313357

Luminaire Tested: **24FCZ2-65HE-UNV-L83050-HRP-CP187-W2A-U-4000K**

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: P313357
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-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (336) 4000K 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: 4561.0 lumens
Efficiency: N/A
Efficacy: 84.8 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

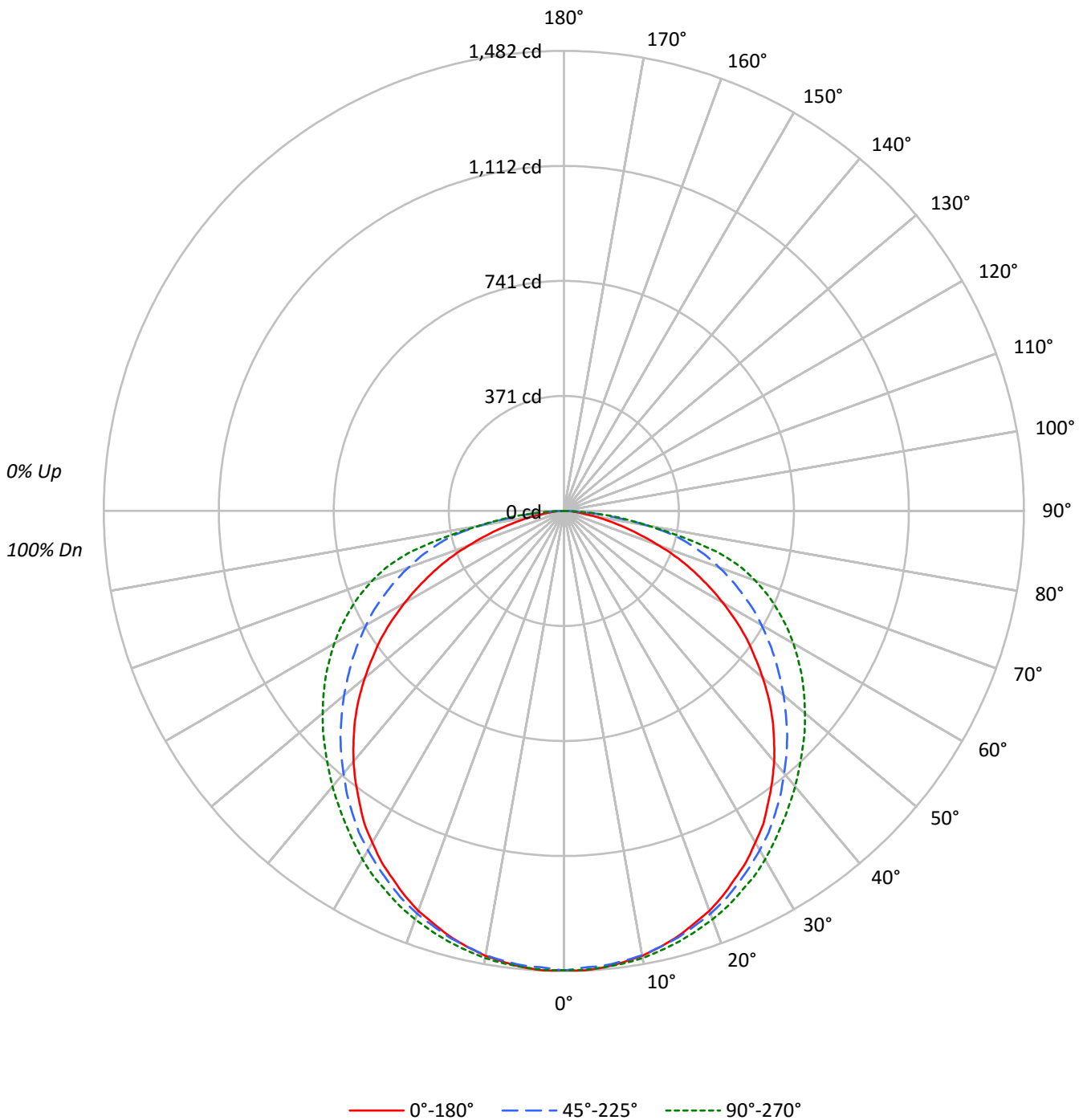
Input Watts (W): 53.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1991	1991	1991
5°	1994	1986	1994
10°	1988	1985	1998
15°	1976	1981	2000
20°	1963	1977	2004
25°	1939	1967	2007
30°	1916	1961	2014
35°	1885	1951	2017
40°	1851	1939	2036
45°	1809	1936	2067
50°	1751	1935	2122
55°	1689	1948	2199
60°	1593	1978	2297
65°	1471	2024	2426
70°	1284	2096	2584
75°	1042	2204	2670
80°	769	2160	2160
85°	590	1592	1798



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.2	3.1
10°-20°	402.6	8.8
20°-30°	612.8	13.4
30°-40°	744.1	16.3
40°-50°	786.2	17.2
50°-60°	741.8	16.3
60°-70°	616.8	13.5
70°-80°	405.8	8.9
80°-90°	110.6	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°	1155.6	25.3
0°-40°	1899.7	41.7
0°-60°	3427.8	75.2
0°-90°	4561.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4561.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1480	1480	1480	1480	1480	
5°	1476	1476	1470	1476	1476	140
15°	1419	1421	1422	1436	1436	400
25°	1306	1314	1325	1348	1352	602
35°	1148	1161	1188	1218	1228	718
45°	951	970	1018	1067	1086	732
55°	720	750	831	909	938	641
65°	462	516	636	729	762	457
75°	200	292	424	502	514	216
85°	38	84	103	115	116	47
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1479.8	1479.8	1479.8	1479.8	1479.8
2.5°	1481.7	1479.8	1472.2	1479.8	1479.8
5°	1476.0	1476.0	1470.3	1476.0	1476.0
7.5°	1466.5	1466.5	1462.6	1470.3	1470.3
10°	1455.0	1455.0	1453.1	1462.6	1462.6
12.5°	1437.8	1439.7	1437.8	1449.3	1449.3
15°	1418.7	1420.6	1422.5	1435.9	1435.9
17.5°	1393.9	1397.7	1401.5	1416.8	1418.7
20°	1371.0	1372.9	1380.5	1397.7	1399.6
22.5°	1340.4	1346.2	1355.7	1372.9	1378.6
25°	1306.1	1313.7	1325.2	1348.1	1351.9
27.5°	1273.6	1279.3	1294.6	1319.4	1327.1
30°	1233.5	1243.0	1262.1	1287.0	1296.5
32.5°	1195.3	1204.9	1227.8	1254.5	1262.1
35°	1147.6	1160.9	1187.7	1218.2	1227.8
37.5°	1101.7	1115.1	1147.6	1181.9	1193.4
40°	1054.0	1069.3	1103.7	1143.8	1159.0
42.5°	1002.5	1023.5	1061.7	1105.6	1122.8
45°	950.9	970.0	1017.7	1067.4	1086.5
47.5°	895.5	918.4	970.0	1029.2	1052.1
50°	836.3	865.0	924.2	989.1	1013.9
52.5°	777.1	809.6	876.4	949.0	975.7
55°	719.9	750.4	830.6	908.9	937.5
57.5°	656.8	695.0	782.9	866.9	895.5
60°	591.9	633.9	735.1	823.0	853.5
62.5°	527.0	574.7	689.3	777.1	809.6
65°	462.1	515.6	635.8	729.4	761.9
67.5°	399.1	458.3	586.2	679.8	712.2
70°	326.5	401.0	532.7	624.4	656.8
72.5°	259.7	345.6	481.2	567.1	595.7
75°	200.5	292.1	423.9	502.2	513.6
77.5°	147.0	238.7	364.7	391.4	393.3
80°	99.3	190.9	278.8	275.0	278.8
82.5°	64.9	143.2	175.7	196.7	198.6
85°	38.2	84.0	103.1	114.6	116.5
87.5°	19.1	28.6	36.3	38.2	42.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)