

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: SHAPER

Report Number: P241270

Luminaire Tested: **1800-X-90-L40-3-M-UNV-STD-X-X**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P241270  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25346)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: SHAPER  
Catalog Number: 1800-X-90-L40-3-M-UNV-STD-X-X  
Description: SHAPER 1800 SERIES LED PENDANT DIRECT DOWNLIGHT  
MEDIUM DISTRIBUTION.  
Light Source: (168) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5578.0 lumens  
Efficiency: N/A  
Efficacy: 79.0 lumens/watt  
Spacing Criteria (0/90/45): 1.34 / 1.34 / 1.33  
Luminous Opening: Circular (Dia: 1.17' x H: 0')  
CIE Type: Direct

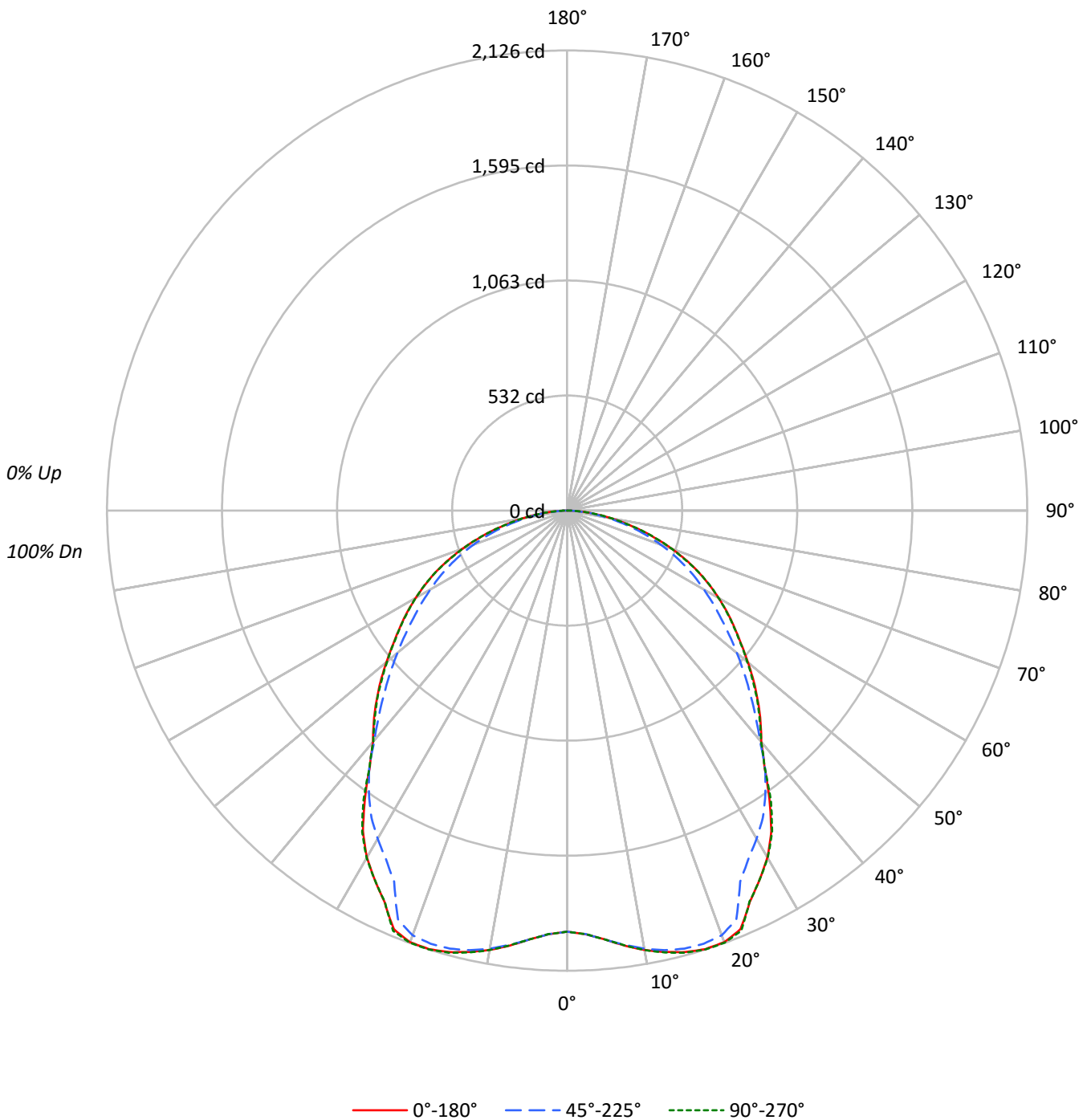
Input Watts (W): 70.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84
2	99	91	85	79	97	89	83	78	86	81	76	83	78	74	80	76	73	71
3	91	80	72	66	88	79	71	65	76	70	64	73	68	63	71	66	62	60
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	52
5	77	64	55	49	75	63	55	48	61	54	48	59	52	47	57	51	47	45
6	71	58	49	43	69	57	49	43	55	48	42	53	47	42	52	46	41	39
7	66	53	44	38	64	52	44	38	50	43	38	49	42	37	48	42	37	35
8	61	48	40	34	60	47	39	34	46	39	34	45	38	33	44	38	33	31
9	58	44	36	31	56	44	36	31	43	35	30	41	35	30	40	34	30	28
10	54	41	33	28	53	40	33	28	39	32	28	38	32	28	38	32	27	26

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	19592	19592	19592
5°	20104	20104	20097
10°	21080	21010	21080
15°	22014	21842	22042
20°	22739	22371	22768
25°	22174	21008	22151
30°	21515	20350	21538
35°	20031	19627	20175
40°	18345	18211	18319
45°	17756	17024	17697
50°	17071	16041	17007
55°	16568	15231	16531
60°	16272	14697	16272
65°	15932	14250	15884
70°	15123	13548	15103
75°	13768	12461	13822
80°	12049	10936	12090
85°	10455	9115	10455



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	192.1	3.4
10°-20°	595.5	10.7
20°-30°	900.6	16.1
30°-40°	983.1	17.6
40°-50°	965.1	17.3
50°-60°	844.9	15.1
60°-70°	634.9	11.4
70°-80°	363.0	6.5
80°-90°	99.0	1.8
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°	1688.2	30.3
0°-40°	2671.3	47.9
0°-60°	4481.3	80.3
0°-90°	5578.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5578.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1946	1946	1946	1946	1946	
5°	1989	1989	1989	1989	1988	192
15°	2112	2110	2095	2111	2114	597
25°	1996	1999	1891	1998	1994	922
35°	1630	1550	1597	1544	1641	1016
45°	1247	1272	1196	1264	1243	961
55°	944	958	868	955	942	846
65°	669	643	598	642	667	658
75°	354	340	320	341	355	376
85°	90	85	79	85	90	101
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1945.8	1945.8	1945.8	1945.8	1945.8	1945.8	1945.8	1945.8	1945.8	1945.8	1945.8
2.5°	1958.8	1957.5	1958.2	1957.5	1958.8	1958.8	1958.2	1958.8	1958.2	1958.2	1958.2
5°	1989.0	1987.7	1988.3	1987.0	1989.0	1989.7	1989.0	1989.7	1989.7	1989.0	1989.0
7.5°	2026.7	2024.0	2024.7	2023.3	2025.4	2025.4	2024.7	2024.7	2024.0	2023.3	2024.0
10°	2061.7	2060.4	2060.4	2059.7	2061.0	2060.4	2059.0	2058.3	2055.6	2054.9	2056.2
12.5°	2088.5	2089.8	2091.9	2091.9	2091.2	2090.5	2087.1	2085.0	2080.9	2080.2	2081.6
15°	2111.8	2112.5	2114.5	2113.9	2111.8	2108.4	2104.9	2100.8	2097.4	2095.3	2097.4
17.5°	2124.1	2124.1	2123.5	2121.4	2117.3	2113.2	2108.4	2104.2	2100.8	2098.1	2100.8
20°	2122.1	2122.1	2118.7	2114.5	2107.7	2101.5	2096.7	2092.6	2089.2	2087.8	2089.8
22.5°	2093.3	2095.3	2092.6	2091.9	2086.4	2078.2	2068.6	2058.3	2047.3	2043.9	2048.7
25°	1995.9	1994.5	1995.9	2008.9	2012.3	1984.9	1949.9	1917.7	1898.5	1890.9	1901.2
27.5°	1923.9	1922.5	1905.3	1877.9	1840.2	1822.4	1825.1	1822.4	1817.6	1814.1	1818.9
30°	1850.5	1840.2	1793.5	1743.5	1707.1	1701.6	1717.4	1737.3	1749.7	1750.3	1748.3
32.5°	1755.8	1735.3	1674.9	1636.5	1621.4	1618.7	1623.5	1644.0	1672.2	1683.1	1668.7
35°	1629.6	1618.0	1580.9	1556.2	1551.4	1548.0	1539.8	1550.1	1585.0	1596.7	1583.7
37.5°	1498.6	1509.6	1493.8	1484.9	1484.2	1477.4	1465.7	1467.1	1485.6	1502.1	1483.5
40°	1395.7	1406.7	1417.0	1416.3	1413.6	1403.3	1394.4	1389.6	1388.2	1385.5	1389.6
42.5°	1322.4	1318.2	1338.1	1349.1	1342.2	1335.4	1327.8	1324.4	1299.0	1287.4	1302.5
45°	1246.9	1245.5	1259.3	1282.6	1277.1	1267.5	1265.4	1251.7	1208.5	1195.5	1211.9
47.5°	1169.4	1174.9	1187.2	1206.4	1209.9	1201.6	1195.5	1167.4	1123.5	1107.7	1122.8
50°	1089.8	1102.2	1119.3	1126.9	1130.3	1125.5	1121.4	1085.0	1040.5	1024.0	1041.2
52.5°	1013.7	1030.9	1053.5	1047.3	1044.6	1046.6	1039.8	1006.9	963.6	943.8	964.3
55°	943.8	960.2	980.1	967.8	954.7	962.3	956.1	930.0	892.3	867.6	890.9
57.5°	877.9	888.2	904.0	887.5	872.4	881.3	875.2	854.6	819.6	798.4	821.0
60°	808.0	816.2	825.1	809.3	793.6	798.4	795.6	777.1	748.3	729.8	746.9
62.5°	738.0	742.1	748.3	731.1	718.1	718.1	716.7	698.9	676.3	666.0	675.6
65°	668.7	668.0	670.1	652.9	643.3	642.0	639.2	622.8	604.9	598.1	605.6
67.5°	590.5	591.9	592.6	576.8	569.3	565.8	563.8	548.7	534.3	529.5	535.0
70°	513.7	514.4	514.4	500.0	494.5	489.0	487.0	475.3	463.6	460.2	465.0
72.5°	432.8	437.6	435.5	423.9	419.8	412.9	411.5	404.0	395.1	390.3	395.1
75°	353.9	360.8	358.7	348.4	343.6	336.8	337.4	333.3	323.7	320.3	325.1
77.5°	277.8	281.9	282.6	277.1	269.5	264.7	266.8	266.1	259.3	251.0	257.2
80°	207.8	212.6	213.3	208.5	202.3	198.2	201.0	201.0	195.5	188.6	194.1
82.5°	144.7	148.1	148.1	145.4	142.7	138.5	139.9	140.6	137.2	130.3	135.1
85°	90.5	91.2	89.8	87.8	85.7	84.4	84.4	85.7	83.0	78.9	82.3
87.5°	33.6	34.3	33.6	35.7	33.6	32.9	33.6	35.7	32.9	32.9	33.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1945.8	1945.8	1945.8	1945.8	1945.8	1945.8	1945.8	1945.8
2.5°	1958.2	1958.8	1958.8	1958.2	1958.2	1958.2	1957.5	1958.2
5°	1989.0	1989.7	1989.7	1988.3	1989.0	1988.3	1987.7	1988.3
7.5°	2024.7	2026.1	2025.4	2026.1	2026.7	2025.4	2025.4	2025.4
10°	2057.6	2059.7	2061.0	2062.4	2063.1	2061.7	2062.4	2061.7
12.5°	2084.4	2088.5	2091.2	2092.6	2094.0	2094.0	2092.6	2091.2
15°	2100.8	2105.6	2109.0	2113.2	2115.9	2116.6	2115.2	2114.5
17.5°	2104.9	2109.0	2113.9	2118.0	2122.1	2124.8	2126.2	2125.5
20°	2093.3	2096.7	2102.2	2108.4	2113.9	2119.3	2123.5	2124.8
22.5°	2059.7	2069.3	2079.6	2087.1	2091.9	2094.6	2096.7	2101.5
25°	1921.8	1947.2	1984.2	2012.3	2007.5	1994.5	1989.7	1993.8
27.5°	1823.7	1821.0	1816.9	1838.8	1873.1	1903.3	1917.7	1924.6
30°	1735.9	1715.4	1696.2	1703.7	1738.7	1790.8	1834.7	1852.5
32.5°	1644.0	1615.9	1613.2	1618.0	1634.4	1669.4	1729.1	1762.7
35°	1547.3	1532.2	1540.5	1546.6	1552.1	1570.0	1611.1	1641.3
37.5°	1460.9	1458.2	1469.1	1476.7	1479.4	1488.3	1504.1	1500.0
40°	1384.8	1386.8	1396.4	1404.7	1410.1	1410.8	1401.2	1393.7
42.5°	1316.2	1325.1	1325.1	1335.4	1345.0	1332.0	1312.1	1317.6
45°	1246.2	1260.6	1259.9	1268.9	1277.8	1255.1	1238.7	1242.8
47.5°	1163.9	1191.4	1195.5	1205.1	1205.1	1181.8	1168.7	1163.9
50°	1080.2	1115.9	1120.7	1126.2	1123.5	1114.5	1097.4	1085.7
52.5°	1002.7	1036.3	1041.2	1039.1	1044.6	1048.7	1025.4	1011.0
55°	926.6	952.7	958.8	952.0	965.0	976.7	954.7	941.7
57.5°	851.2	871.1	876.5	871.1	885.5	898.5	884.1	875.2
60°	775.0	792.9	796.3	791.5	808.6	820.3	813.4	808.0
62.5°	700.3	712.6	716.0	718.1	728.4	742.1	740.7	740.1
65°	624.8	637.9	639.2	645.4	652.3	670.1	666.7	666.7
67.5°	551.4	560.4	562.4	572.0	574.8	591.9	589.8	587.1
70°	475.3	484.2	487.0	496.6	500.7	514.4	515.1	513.0
72.5°	405.3	408.8	411.5	420.4	423.9	436.9	436.9	434.2
75°	334.0	333.3	336.1	345.0	348.4	359.4	358.7	355.3
77.5°	266.8	263.4	265.4	271.6	275.7	284.0	281.2	278.5
80°	203.7	198.2	198.9	205.1	207.8	213.3	210.6	208.5
82.5°	144.0	139.2	137.9	142.7	146.8	147.5	146.8	145.4
85°	87.8	83.7	84.4	86.4	89.2	89.2	90.5	90.5
87.5°	34.3	32.2	32.2	34.3	34.3	35.0	34.3	32.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)