

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: P241278

Luminaire Tested: **1800-X-90-L40-4-M-UNV-STD-X-X**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P241278  
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-L40-4-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: 6225.9 lumens  
Efficiency: N/A  
Efficacy: 75.1 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

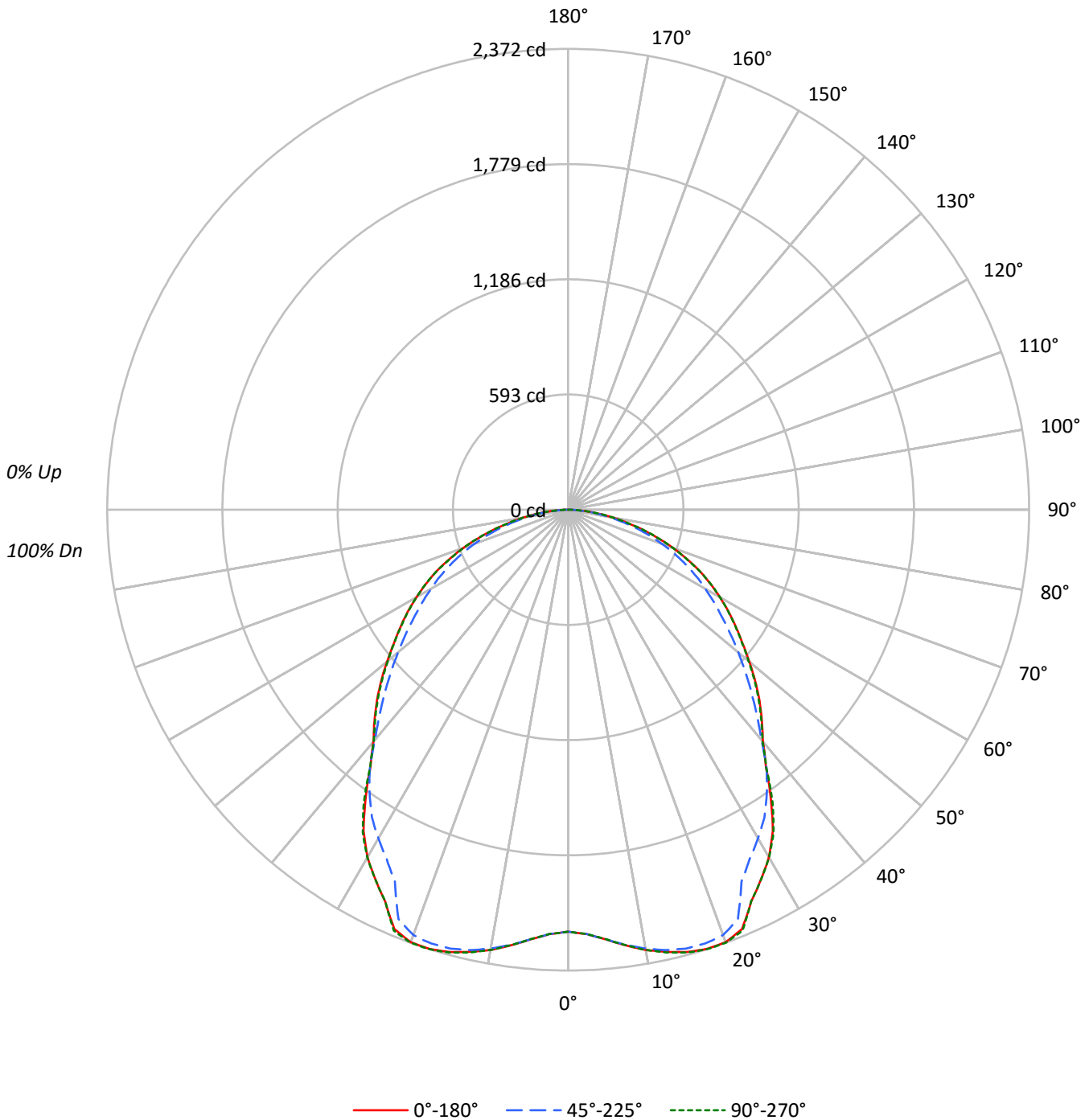
Input Watts (W): 82.9  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	21868	21868	21868
5°	22439	22439	22432
10°	23528	23450	23528
15°	24571	24379	24602
20°	25380	24970	25412
25°	24750	23449	24724
30°	24014	22714	24040
35°	22358	21907	22518
40°	20477	20326	20447
45°	19817	19000	19752
50°	19054	17903	18982
55°	18492	17000	18452
60°	18160	16402	18160
65°	17783	15903	17728
70°	16881	15123	16857
75°	15367	13908	15425
80°	13453	12206	13493
85°	11680	10167	11680



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	214.4	3.4
10°-20°	664.7	10.7
20°-30°	1005.2	16.1
30°-40°	1097.3	17.6
40°-50°	1077.2	17.3
50°-60°	943.0	15.1
60°-70°	708.6	11.4
70°-80°	405.1	6.5
80°-90°	110.5	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°	1884.3	30.3
0°-40°	2981.6	47.9
0°-60°	5001.7	80.3
0°-90°	6225.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6225.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2172	2172	2172	2172	2172	
5°	2220	2220	2220	2220	2219	215
15°	2357	2355	2339	2356	2360	667
25°	2228	2231	2111	2230	2225	1029
35°	1819	1730	1782	1723	1832	1134
45°	1392	1420	1334	1411	1387	1073
55°	1053	1070	968	1066	1051	945
65°	746	717	668	717	744	734
75°	395	380	358	380	396	419
85°	101	95	88	95	101	113
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°	2171.8	2171.8	2171.8	2171.8	2171.8	2171.8	2171.8	2171.8	2171.8	2171.8	2171.8
2.5°	2186.4	2184.8	2185.6	2184.8	2186.4	2186.4	2185.6	2186.4	2185.6	2185.6	2185.6
5°	2220.0	2218.5	2219.3	2217.7	2220.0	2220.8	2220.0	2220.8	2220.8	2220.0	2220.0
7.5°	2262.1	2259.1	2259.9	2258.3	2260.6	2260.6	2259.9	2259.9	2259.1	2258.3	2259.1
10°	2301.2	2299.7	2299.7	2298.9	2300.4	2299.7	2298.1	2297.4	2294.3	2293.5	2295.1
12.5°	2331.0	2332.6	2334.9	2334.9	2334.1	2333.3	2329.5	2327.2	2322.6	2321.9	2323.4
15°	2357.1	2357.8	2360.1	2359.4	2357.1	2353.2	2349.4	2344.8	2341.0	2338.7	2341.0
17.5°	2370.9	2370.9	2370.1	2367.8	2363.2	2358.6	2353.2	2348.7	2344.8	2341.8	2344.8
20°	2368.6	2368.6	2364.7	2360.1	2352.5	2345.6	2340.2	2335.6	2331.8	2330.3	2332.6
22.5°	2336.4	2338.7	2335.6	2334.9	2328.7	2319.6	2308.8	2297.4	2285.1	2281.3	2286.6
25°	2227.7	2226.2	2227.7	2242.2	2246.1	2215.5	2176.4	2140.4	2119.0	2110.6	2122.1
27.5°	2147.3	2145.8	2126.6	2096.0	2053.9	2034.0	2037.1	2034.0	2028.7	2024.8	2030.2
30°	2065.4	2053.9	2001.9	1946.0	1905.4	1899.3	1916.9	1939.1	1952.9	1953.6	1951.3
32.5°	1959.8	1936.8	1869.4	1826.6	1809.7	1806.7	1812.0	1835.0	1866.4	1878.6	1862.5
35°	1818.9	1805.9	1764.6	1737.0	1731.6	1727.8	1718.6	1730.1	1769.1	1782.2	1767.6
37.5°	1672.7	1684.9	1667.3	1657.4	1656.6	1649.0	1635.9	1637.5	1658.1	1676.5	1655.8
40°	1557.9	1570.1	1581.6	1580.8	1577.8	1566.3	1556.3	1551.0	1549.4	1546.4	1551.0
42.5°	1475.9	1471.4	1493.6	1505.8	1498.1	1490.5	1482.1	1478.2	1449.9	1436.9	1453.7
45°	1391.7	1390.2	1405.5	1431.5	1425.4	1414.7	1412.4	1397.1	1348.9	1334.3	1352.7
47.5°	1305.2	1311.4	1325.1	1346.6	1350.4	1341.2	1334.3	1302.9	1253.9	1236.3	1253.2
50°	1216.4	1230.2	1249.3	1257.8	1261.6	1256.2	1251.6	1211.1	1161.3	1142.9	1162.1
52.5°	1131.5	1150.6	1175.9	1169.0	1165.9	1168.2	1160.5	1123.8	1075.6	1053.4	1076.3
55°	1053.4	1071.7	1093.9	1080.2	1065.6	1074.0	1067.2	1038.1	996.0	968.4	994.4
57.5°	979.9	991.4	1009.0	990.6	973.8	983.7	976.8	953.9	914.8	891.1	916.3
60°	901.8	911.0	920.9	903.3	885.7	891.1	888.0	867.3	835.2	814.5	833.7
62.5°	823.7	828.3	835.2	816.1	801.5	801.5	800.0	780.1	754.8	743.3	754.0
65°	746.4	745.6	747.9	728.8	718.1	716.5	713.5	695.1	675.2	667.5	676.0
67.5°	659.1	660.7	661.4	643.8	635.4	631.6	629.3	612.4	596.3	591.0	597.1
70°	573.4	574.1	574.1	558.1	551.9	545.8	543.5	530.5	517.5	513.7	519.0
72.5°	483.1	488.4	486.1	473.1	468.5	460.9	459.3	450.9	440.9	435.6	440.9
75°	395.0	402.7	400.4	388.9	383.5	375.9	376.6	372.0	361.3	357.5	362.9
77.5°	310.0	314.6	315.4	309.3	300.9	295.5	297.8	297.0	289.4	280.2	287.1
80°	232.0	237.3	238.1	232.7	225.8	221.2	224.3	224.3	218.2	210.5	216.6
82.5°	161.5	165.4	165.4	162.3	159.2	154.6	156.2	156.9	153.1	145.5	150.8
85°	101.1	101.8	100.3	98.0	95.7	94.2	94.2	95.7	92.6	88.0	91.9
87.5°	37.5	38.3	37.5	39.8	37.5	36.7	37.5	39.8	36.7	36.7	37.5
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°	2171.8	2171.8	2171.8	2171.8	2171.8	2171.8	2171.8	2171.8
2.5°	2185.6	2186.4	2186.4	2185.6	2185.6	2185.6	2184.8	2185.6
5°	2220.0	2220.8	2220.8	2219.3	2220.0	2219.3	2218.5	2219.3
7.5°	2259.9	2261.4	2260.6	2261.4	2262.1	2260.6	2260.6	2260.6
10°	2296.6	2298.9	2300.4	2302.0	2302.7	2301.2	2302.0	2301.2
12.5°	2326.5	2331.0	2334.1	2335.6	2337.2	2337.2	2335.6	2334.1
15°	2344.8	2350.2	2354.0	2358.6	2361.7	2362.4	2360.9	2360.1
17.5°	2349.4	2354.0	2359.4	2364.0	2368.6	2371.6	2373.2	2372.4
20°	2336.4	2340.2	2346.4	2353.2	2359.4	2365.5	2370.1	2371.6
22.5°	2298.9	2309.6	2321.1	2329.5	2334.9	2337.9	2340.2	2345.6
25°	2145.0	2173.3	2214.7	2246.1	2240.7	2226.2	2220.8	2225.4
27.5°	2035.6	2032.5	2027.9	2052.4	2090.7	2124.4	2140.4	2148.1
30°	1937.6	1914.6	1893.2	1901.6	1940.6	1998.8	2047.8	2067.7
32.5°	1835.0	1803.6	1800.5	1805.9	1824.3	1863.3	1929.9	1967.4
35°	1727.0	1710.2	1719.4	1726.3	1732.4	1752.3	1798.2	1831.9
37.5°	1630.6	1627.5	1639.8	1648.2	1651.3	1661.2	1678.8	1674.2
40°	1545.6	1547.9	1558.6	1567.8	1573.9	1574.7	1564.0	1555.6
42.5°	1469.1	1479.0	1479.0	1490.5	1501.2	1486.7	1464.5	1470.6
45°	1391.0	1407.0	1406.3	1416.2	1426.2	1400.9	1382.6	1387.1
47.5°	1299.1	1329.7	1334.3	1345.0	1345.0	1319.0	1304.5	1299.1
50°	1205.7	1245.5	1250.9	1257.0	1253.9	1244.0	1224.9	1211.8
52.5°	1119.2	1156.7	1162.1	1159.8	1165.9	1170.5	1144.5	1128.4
55°	1034.2	1063.3	1070.2	1062.6	1077.1	1090.1	1065.6	1051.1
57.5°	950.0	972.2	978.4	972.2	988.3	1002.8	986.8	976.8
60°	865.1	885.0	888.8	883.4	902.6	915.6	907.9	901.8
62.5°	781.6	795.4	799.2	801.5	813.0	828.3	826.8	826.0
65°	697.4	711.9	713.5	720.4	728.0	747.9	744.1	744.1
67.5°	615.5	625.4	627.7	638.5	641.5	660.7	658.4	655.3
70°	530.5	540.5	543.5	554.2	558.8	574.1	574.9	572.6
72.5°	452.4	456.3	459.3	469.3	473.1	487.6	487.6	484.6
75°	372.8	372.0	375.1	385.1	388.9	401.1	400.4	396.5
77.5°	297.8	294.0	296.3	303.2	307.7	316.9	313.9	310.8
80°	227.4	221.2	222.0	228.9	232.0	238.1	235.0	232.7
82.5°	160.8	155.4	153.9	159.2	163.8	164.6	163.8	162.3
85°	98.0	93.4	94.2	96.5	99.5	99.5	101.1	101.1
87.5°	38.3	36.0	36.0	38.3	38.3	39.0	38.3	36.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)