

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: P241248

Luminaire Tested: **1800-X-90-L27-1-M-UNV-STD-X-X**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P241248  
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-L27-1-M-UNV-STD-X-X  
Description: SHAPER 1800 SERIES LED PENDANT DIRECT DOWNLIGHT  
MEDIUM DISTRIBUTION.  
Light Source: (168) 2700K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3452.4 lumens  
Efficiency: N/A  
Efficacy: 82.6 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

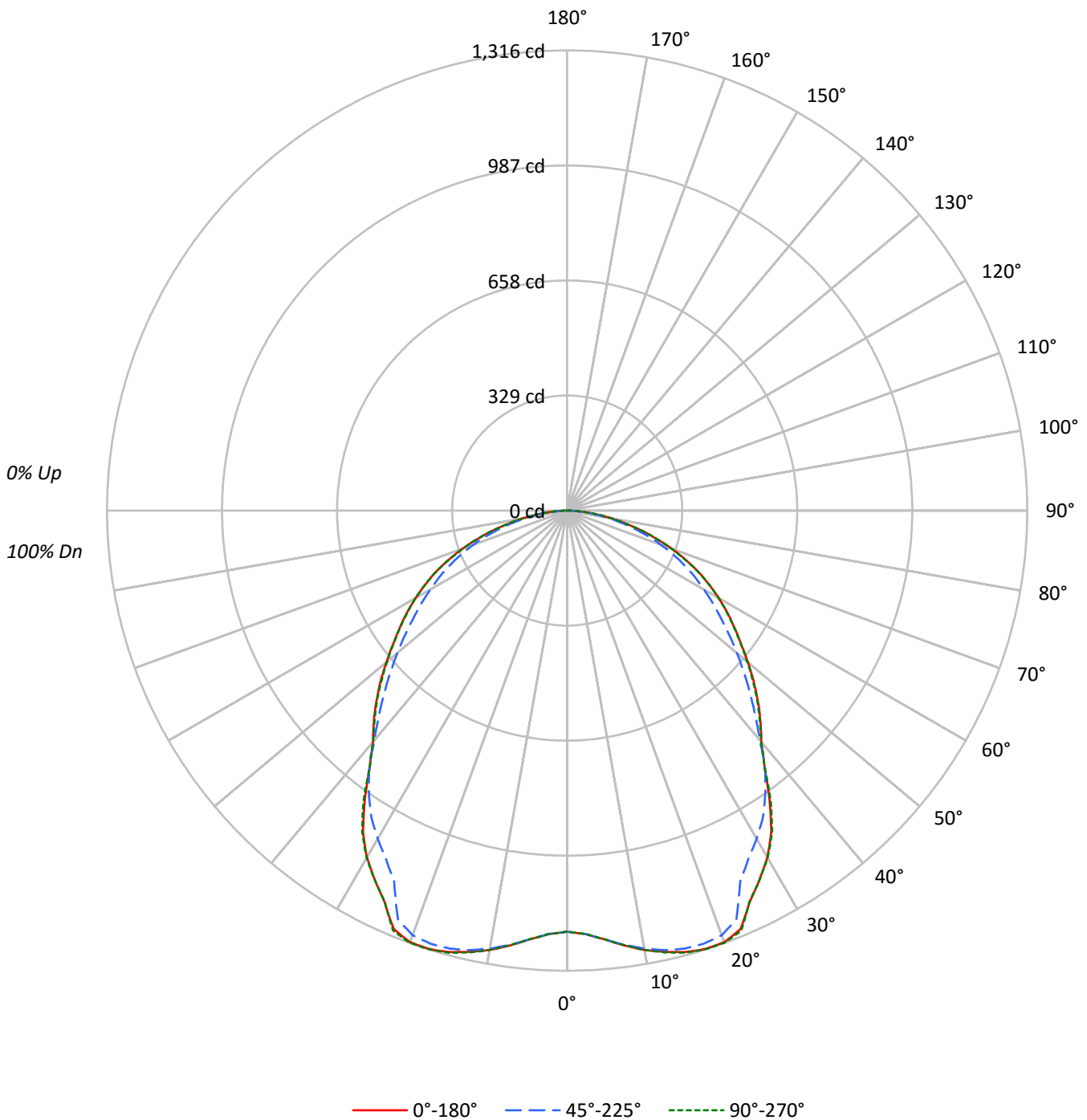
Input Watts (W): 41.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	12126	12126	12126
5°	12443	12443	12438
10°	13047	13003	13047
15°	13625	13519	13643
20°	14073	13846	14092
25°	13724	13003	13710
30°	13316	12595	13331
35°	12398	12147	12486
40°	11355	11271	11338
45°	10990	10536	10953
50°	10566	9928	10527
55°	10254	9427	10231
60°	10071	9096	10071
65°	9861	8820	9830
70°	9362	8384	9347
75°	8520	7711	8555
80°	7457	6767	7480
85°	6470	5638	6470



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	118.9	3.4
10°-20°	368.6	10.7
20°-30°	557.4	16.1
30°-40°	608.5	17.6
40°-50°	597.3	17.3
50°-60°	522.9	15.1
60°-70°	392.9	11.4
70°-80°	224.6	6.5
80°-90°	61.3	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°	1044.9	30.3
0°-40°	1653.4	47.9
0°-60°	2773.6	80.3
0°-90°	3452.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3452.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1204	1204	1204	1204	1204	
5°	1231	1231	1231	1231	1231	119
15°	1307	1306	1297	1307	1309	370
25°	1235	1237	1170	1237	1234	570
35°	1009	959	988	955	1016	629
45°	772	787	740	783	769	595
55°	584	593	537	591	583	524
65°	414	398	370	398	413	407
75°	219	211	198	211	220	233
85°	56	53	49	53	56	63
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°	1204.3	1204.3	1204.3	1204.3	1204.3	1204.3	1204.3	1204.3	1204.3	1204.3	1204.3
2.5°	1212.4	1211.5	1212.0	1211.5	1212.4	1212.4	1212.0	1212.4	1212.0	1212.0	1212.0
5°	1231.1	1230.2	1230.6	1229.8	1231.1	1231.5	1231.1	1231.5	1231.5	1231.1	1231.1
7.5°	1254.4	1252.7	1253.1	1252.3	1253.6	1253.6	1253.1	1253.1	1252.7	1252.3	1252.7
10°	1276.1	1275.2	1275.2	1274.8	1275.6	1275.2	1274.4	1273.9	1272.2	1271.8	1272.7
12.5°	1292.6	1293.5	1294.7	1294.7	1294.3	1293.9	1291.8	1290.5	1288.0	1287.5	1288.4
15°	1307.1	1307.5	1308.8	1308.3	1307.1	1304.9	1302.8	1300.3	1298.1	1296.9	1298.1
17.5°	1314.7	1314.7	1314.3	1313.0	1310.4	1307.9	1304.9	1302.4	1300.3	1298.6	1300.3
20°	1313.4	1313.4	1311.3	1308.8	1304.5	1300.7	1297.7	1295.2	1293.0	1292.2	1293.5
22.5°	1295.6	1296.9	1295.2	1294.7	1291.3	1286.3	1280.3	1273.9	1267.1	1265.0	1268.0
25°	1235.3	1234.5	1235.3	1243.4	1245.5	1228.5	1206.9	1186.9	1175.0	1170.4	1176.7
27.5°	1190.7	1189.9	1179.3	1162.3	1138.9	1127.9	1129.6	1127.9	1124.9	1122.8	1125.8
30°	1145.3	1138.9	1110.1	1079.1	1056.6	1053.2	1063.0	1075.3	1082.9	1083.3	1082.1
32.5°	1086.7	1074.0	1036.6	1012.9	1003.5	1001.8	1004.8	1017.5	1034.9	1041.7	1032.8
35°	1008.6	1001.4	978.5	963.2	960.2	958.1	953.0	959.4	981.0	988.2	980.2
37.5°	927.5	934.3	924.6	919.1	918.6	914.4	907.2	908.0	919.5	929.7	918.2
40°	863.9	870.7	877.0	876.6	874.9	868.5	863.0	860.0	859.2	857.5	860.0
42.5°	818.4	815.9	828.2	835.0	830.8	826.5	821.8	819.7	804.0	796.8	806.1
45°	771.8	770.9	779.4	793.8	790.4	784.5	783.2	774.7	748.0	739.9	750.1
47.5°	723.8	727.2	734.8	746.7	748.8	743.7	739.9	722.5	695.3	685.6	694.9
50°	674.5	682.2	692.8	697.5	699.6	696.6	694.1	671.6	644.0	633.8	644.4
52.5°	627.4	638.0	652.0	648.2	646.5	647.8	643.6	623.2	596.4	584.1	596.9
55°	584.1	594.3	606.6	599.0	590.9	595.6	591.8	575.6	552.3	537.0	551.4
57.5°	543.4	549.7	559.5	549.3	540.0	545.5	541.7	528.9	507.3	494.1	508.1
60°	500.1	505.2	510.7	500.9	491.2	494.1	492.4	481.0	463.1	451.7	462.3
62.5°	456.8	459.3	463.1	452.5	444.5	444.5	443.6	432.6	418.6	412.2	418.1
65°	413.9	413.5	414.7	404.1	398.2	397.3	395.6	385.5	374.4	370.2	374.8
67.5°	365.5	366.3	366.8	357.0	352.3	350.2	348.9	339.6	330.7	327.7	331.1
70°	318.0	318.4	318.4	309.5	306.1	302.7	301.4	294.2	287.0	284.8	287.8
72.5°	267.9	270.8	269.6	262.3	259.8	255.6	254.7	250.0	244.5	241.5	244.5
75°	219.0	223.3	222.0	215.6	212.7	208.4	208.9	206.3	200.4	198.2	201.2
77.5°	171.9	174.5	174.9	171.5	166.8	163.9	165.1	164.7	160.5	155.4	159.2
80°	128.6	131.6	132.0	129.0	125.2	122.7	124.4	124.4	121.0	116.7	120.1
82.5°	89.6	91.7	91.7	90.0	88.3	85.8	86.6	87.0	84.9	80.7	83.6
85°	56.0	56.5	55.6	54.3	53.1	52.2	52.2	53.1	51.4	48.8	50.9
87.5°	20.8	21.2	20.8	22.1	20.8	20.4	20.8	22.1	20.4	20.4	20.8
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°	1204.3	1204.3	1204.3	1204.3	1204.3	1204.3	1204.3	1204.3
2.5°	1212.0	1212.4	1212.4	1212.0	1212.0	1212.0	1211.5	1212.0
5°	1231.1	1231.5	1231.5	1230.6	1231.1	1230.6	1230.2	1230.6
7.5°	1253.1	1254.0	1253.6	1254.0	1254.4	1253.6	1253.6	1253.6
10°	1273.5	1274.8	1275.6	1276.5	1276.9	1276.1	1276.5	1276.1
12.5°	1290.1	1292.6	1294.3	1295.2	1296.0	1296.0	1295.2	1294.3
15°	1300.3	1303.2	1305.4	1307.9	1309.6	1310.0	1309.2	1308.8
17.5°	1302.8	1305.4	1308.3	1310.9	1313.4	1315.1	1316.0	1315.5
20°	1295.6	1297.7	1301.1	1304.9	1308.3	1311.7	1314.3	1315.1
22.5°	1274.8	1280.7	1287.1	1291.8	1294.7	1296.4	1297.7	1300.7
25°	1189.5	1205.2	1228.1	1245.5	1242.5	1234.5	1231.5	1234.0
27.5°	1128.8	1127.1	1124.5	1138.1	1159.3	1178.0	1186.9	1191.2
30°	1074.4	1061.7	1049.8	1054.5	1076.1	1108.4	1135.6	1146.6
32.5°	1017.5	1000.1	998.4	1001.4	1011.6	1033.2	1070.2	1091.0
35°	957.7	948.3	953.4	957.3	960.7	971.7	997.2	1015.8
37.5°	904.2	902.5	909.3	914.0	915.7	921.2	930.9	928.4
40°	857.1	858.4	864.3	869.4	872.8	873.2	867.3	862.6
42.5°	814.6	820.1	820.1	826.5	832.5	824.4	812.1	815.5
45°	771.3	780.2	779.8	785.3	790.9	776.8	766.7	769.2
47.5°	720.4	737.4	739.9	745.9	745.9	731.4	723.4	720.4
50°	668.6	690.7	693.6	697.0	695.3	689.8	679.2	672.0
52.5°	620.6	641.4	644.4	643.1	646.5	649.1	634.6	625.7
55°	573.5	589.6	593.5	589.2	597.3	604.5	590.9	582.8
57.5°	526.8	539.1	542.5	539.1	548.0	556.1	547.2	541.7
60°	479.7	490.7	492.9	489.9	500.5	507.7	503.5	500.1
62.5°	433.4	441.1	443.2	444.5	450.8	459.3	458.5	458.0
65°	386.7	394.8	395.6	399.5	403.7	414.7	412.6	412.6
67.5°	341.3	346.8	348.1	354.0	355.7	366.3	365.1	363.4
70°	294.2	299.7	301.4	307.3	309.9	318.4	318.8	317.5
72.5°	250.9	253.0	254.7	260.2	262.3	270.4	270.4	268.7
75°	206.7	206.3	208.0	213.5	215.6	222.4	222.0	219.9
77.5°	165.1	163.0	164.3	168.1	170.7	175.7	174.0	172.3
80°	126.1	122.7	123.1	126.9	128.6	132.0	130.3	129.0
82.5°	89.1	86.2	85.3	88.3	90.8	91.3	90.8	90.0
85°	54.3	51.8	52.2	53.5	55.2	55.2	56.0	56.0
87.5°	21.2	20.0	20.0	21.2	21.2	21.6	21.2	20.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)