

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: P241254

Luminaire Tested: **1800-X-90-L40-1-M-UNV-STD-X-X**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P241254  
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-L40-1-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: 3821.6 lumens  
Efficiency: N/A  
Efficacy: 91.4 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

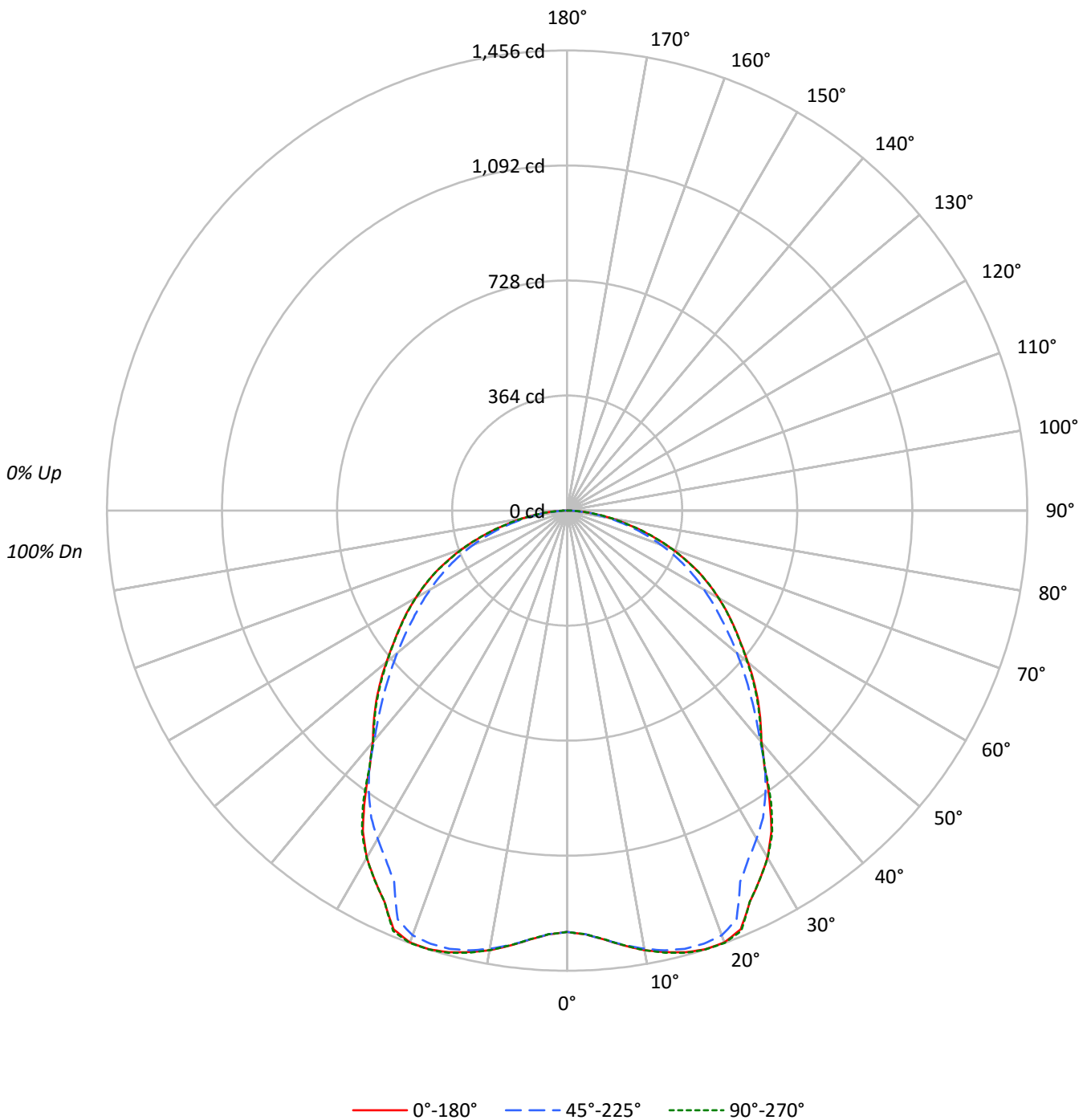
Input Watts (W): 41.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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					100			
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84					84			
2	99	91	85	79	97	89	83	78	86	81	76	83	78	74	80	76	73	71					71			
3	91	80	72	66	88	79	71	65	76	70	64	73	68	63	71	66	62	60					60			
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	52					52			
5	77	64	55	49	75	63	55	48	61	54	48	59	52	47	57	51	47	45					45			
6	71	58	49	43	69	57	49	43	55	48	42	53	47	42	52	46	41	39					39			
7	66	53	44	38	64	52	44	38	50	43	38	49	42	37	48	42	37	35					35			
8	61	48	40	34	60	47	39	34	46	39	34	45	38	33	44	38	33	31					31			
9	58	44	36	31	56	44	36	31	43	35	30	41	35	30	40	34	30	28					28			
10	54	41	33	28	53	40	33	28	39	32	28	38	32	28	38	32	27	26					26			

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

	0°	45°	90°
0°	13423	13423	13423
5°	13773	13773	13769
10°	14442	14394	14442
15°	15082	14965	15102
20°	15579	15327	15599
25°	15192	14393	15176
30°	14740	13943	14757
35°	13724	13446	13822
40°	12570	12476	12550
45°	12165	11662	12125
50°	11697	10990	11653
55°	11351	10435	11326
60°	11146	10069	11146
65°	10917	9764	10881
70°	10363	9282	10348
75°	9434	8535	9469
80°	8257	7492	8286
85°	7163	6239	7163



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	131.6	3.4
10°-20°	408.0	10.7
20°-30°	617.0	16.1
30°-40°	673.5	17.6
40°-50°	661.2	17.3
50°-60°	578.8	15.1
60°-70°	435.0	11.4
70°-80°	248.7	6.5
80°-90°	67.8	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°	1156.6	30.3
0°-40°	1830.2	47.9
0°-60°	3070.2	80.3
0°-90°	3821.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3821.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1333	1333	1333	1333	1333	
5°	1363	1363	1363	1363	1362	132
15°	1447	1446	1436	1446	1449	409
25°	1367	1369	1296	1369	1366	631
35°	1116	1062	1094	1058	1124	696
45°	854	872	819	866	852	659
55°	647	657	594	655	645	580
65°	458	440	410	440	457	451
75°	242	233	219	233	243	257
85°	62	58	54	58	62	69
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°	1333.1	1333.1	1333.1	1333.1	1333.1	1333.1	1333.1	1333.1	1333.1	1333.1	1333.1
2.5°	1342.0	1341.1	1341.6	1341.1	1342.0	1342.0	1341.6	1342.0	1341.6	1341.6	1341.6
5°	1362.7	1361.8	1362.3	1361.3	1362.7	1363.2	1362.7	1363.2	1363.2	1362.7	1362.7
7.5°	1388.6	1386.7	1387.2	1386.2	1387.6	1387.6	1387.2	1387.2	1386.7	1386.2	1386.7
10°	1412.5	1411.6	1411.6	1411.1	1412.1	1411.6	1410.7	1410.2	1408.3	1407.8	1408.8
12.5°	1430.9	1431.8	1433.2	1433.2	1432.7	1432.3	1429.9	1428.5	1425.7	1425.2	1426.2
15°	1446.8	1447.3	1448.7	1448.2	1446.8	1444.5	1442.1	1439.3	1437.0	1435.6	1437.0
17.5°	1455.3	1455.3	1454.8	1453.4	1450.6	1447.8	1444.5	1441.7	1439.3	1437.4	1439.3
20°	1453.9	1453.9	1451.5	1448.7	1444.0	1439.8	1436.5	1433.7	1431.3	1430.4	1431.8
22.5°	1434.1	1435.6	1433.7	1433.2	1429.4	1423.8	1417.2	1410.2	1402.7	1400.3	1403.6
25°	1367.4	1366.5	1367.4	1376.4	1378.7	1359.9	1335.9	1313.9	1300.7	1295.5	1302.6
27.5°	1318.1	1317.1	1305.4	1286.6	1260.8	1248.5	1250.4	1248.5	1245.2	1242.9	1246.2
30°	1267.8	1260.8	1228.8	1194.5	1169.6	1165.8	1176.6	1190.3	1198.7	1199.2	1197.8
32.5°	1203.0	1188.9	1147.5	1121.2	1110.9	1109.0	1112.3	1126.4	1145.6	1153.1	1143.3
35°	1116.5	1108.5	1083.1	1066.2	1062.9	1060.6	1054.9	1062.0	1085.9	1093.9	1085.0
37.5°	1026.7	1034.3	1023.5	1017.3	1016.9	1012.2	1004.2	1005.1	1017.8	1029.1	1016.4
40°	956.3	963.8	970.8	970.4	968.5	961.4	955.3	952.0	951.1	949.2	952.0
42.5°	906.0	903.2	916.8	924.3	919.6	914.9	909.7	907.4	890.0	882.0	892.3
45°	854.3	853.3	862.7	878.7	875.0	868.4	867.0	857.6	828.0	819.0	830.3
47.5°	801.2	804.9	813.4	826.6	828.9	823.3	819.0	799.8	769.7	758.9	769.2
50°	746.7	755.1	766.9	772.1	774.4	771.1	768.3	743.4	712.8	701.6	713.3
52.5°	694.5	706.3	721.8	717.5	715.7	717.1	712.4	689.8	660.2	646.6	660.7
55°	646.6	657.9	671.5	663.0	654.1	659.3	655.0	637.2	611.3	594.4	610.4
57.5°	601.5	608.5	619.3	608.1	597.7	603.8	599.6	585.5	561.5	547.0	562.5
60°	553.5	559.2	565.3	554.5	543.7	547.0	545.1	532.4	512.7	500.0	511.7
62.5°	505.6	508.4	512.7	500.9	492.0	492.0	491.1	478.8	463.3	456.3	462.9
65°	458.2	457.7	459.1	447.3	440.8	439.8	438.0	426.7	414.5	409.8	414.9
67.5°	404.6	405.5	406.0	395.2	390.0	387.7	386.3	375.9	366.1	362.8	366.5
70°	352.0	352.4	352.4	342.6	338.8	335.0	333.6	325.6	317.7	315.3	318.6
72.5°	296.5	299.8	298.4	290.4	287.6	282.9	281.9	276.8	270.7	267.4	270.7
75°	242.5	247.2	245.8	238.7	235.4	230.7	231.2	228.4	221.8	219.4	222.7
77.5°	190.3	193.1	193.6	189.8	184.7	181.4	182.8	182.3	177.6	172.0	176.2
80°	142.4	145.7	146.1	142.9	138.6	135.8	137.7	137.7	133.9	129.2	133.0
82.5°	99.1	101.5	101.5	99.6	97.7	94.9	95.9	96.3	94.0	89.3	92.6
85°	62.0	62.5	61.6	60.1	58.7	57.8	57.8	58.7	56.9	54.0	56.4
87.5°	23.0	23.5	23.0	24.4	23.0	22.6	23.0	24.4	22.6	22.6	23.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P241254

CATALOG NUMBER: 1800-X-90-L40-1-M-UNV-STD-X-X

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1333.1	1333.1	1333.1	1333.1	1333.1	1333.1	1333.1	1333.1
2.5°	1341.6	1342.0	1342.0	1341.6	1341.6	1341.6	1341.1	1341.6
5°	1362.7	1363.2	1363.2	1362.3	1362.7	1362.3	1361.8	1362.3
7.5°	1387.2	1388.1	1387.6	1388.1	1388.6	1387.6	1387.6	1387.6
10°	1409.7	1411.1	1412.1	1413.0	1413.5	1412.5	1413.0	1412.5
12.5°	1428.0	1430.9	1432.7	1433.7	1434.6	1434.6	1433.7	1432.7
15°	1439.3	1442.6	1445.0	1447.8	1449.7	1450.1	1449.2	1448.7
17.5°	1442.1	1445.0	1448.2	1451.1	1453.9	1455.8	1456.7	1456.2
20°	1434.1	1436.5	1440.3	1444.5	1448.2	1452.0	1454.8	1455.8
22.5°	1411.1	1417.7	1424.8	1429.9	1433.2	1435.1	1436.5	1439.8
25°	1316.7	1334.1	1359.4	1378.7	1375.4	1366.5	1363.2	1366.0
27.5°	1249.5	1247.6	1244.8	1259.8	1283.3	1304.0	1313.9	1318.6
30°	1189.3	1175.2	1162.1	1167.2	1191.2	1226.9	1257.0	1269.2
32.5°	1126.4	1107.1	1105.2	1108.5	1119.8	1143.7	1184.6	1207.7
35°	1060.1	1049.8	1055.4	1059.6	1063.4	1075.6	1103.8	1124.5
37.5°	1000.9	999.0	1006.5	1011.7	1013.6	1019.7	1030.5	1027.7
40°	948.7	950.1	956.7	962.4	966.1	966.6	960.0	954.8
42.5°	901.7	907.9	907.9	914.9	921.5	912.6	898.9	902.7
45°	853.8	863.7	863.2	869.3	875.4	859.9	848.6	851.5
47.5°	797.4	816.2	819.0	825.6	825.6	809.6	800.7	797.4
50°	740.1	764.5	767.8	771.6	769.7	763.6	751.8	743.9
52.5°	687.0	710.0	713.3	711.9	715.7	718.5	702.5	692.6
55°	634.8	652.7	656.9	652.2	661.2	669.1	654.1	645.2
57.5°	583.2	596.8	600.5	596.8	606.6	615.6	605.7	599.6
60°	531.0	543.2	545.6	542.3	554.0	562.0	557.3	553.5
62.5°	479.8	488.2	490.6	492.0	499.0	508.4	507.5	507.0
65°	428.1	437.0	438.0	442.2	446.9	459.1	456.7	456.7
67.5°	377.8	383.9	385.3	391.9	393.8	405.5	404.1	402.2
70°	325.6	331.8	333.6	340.2	343.0	352.4	352.9	351.5
72.5°	277.7	280.1	281.9	288.1	290.4	299.3	299.3	297.4
75°	228.8	228.4	230.3	236.4	238.7	246.2	245.8	243.4
77.5°	182.8	180.4	181.9	186.1	188.9	194.5	192.7	190.8
80°	139.6	135.8	136.3	140.5	142.4	146.1	144.3	142.9
82.5°	98.7	95.4	94.5	97.7	100.6	101.0	100.6	99.6
85°	60.1	57.3	57.8	59.2	61.1	61.1	62.0	62.0
87.5°	23.5	22.1	22.1	23.5	23.5	24.0	23.5	22.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)