

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: NEO-RAY

Report Number: P199442

Luminaire Tested: **S123-DIW-U1-2-35-0048-1D-UDD-1-NA-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P199442  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P27889 P27889)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123-DIW-U1-2-35-0048-1D-UDD-1-NA-W  
Description: DEFINE 3-INCH DIRECT/INDIRECT WALL LED LUMINAIRE  
UPLIGHT LL1-3500K, NO LENS  
DOWNLIGHT LL2-3500K, SATIN WHITE DIFFUSER  
Light Source: -  
757G  
Ballast/Driver: ELECTRONIC DRIVERS

**Summary**

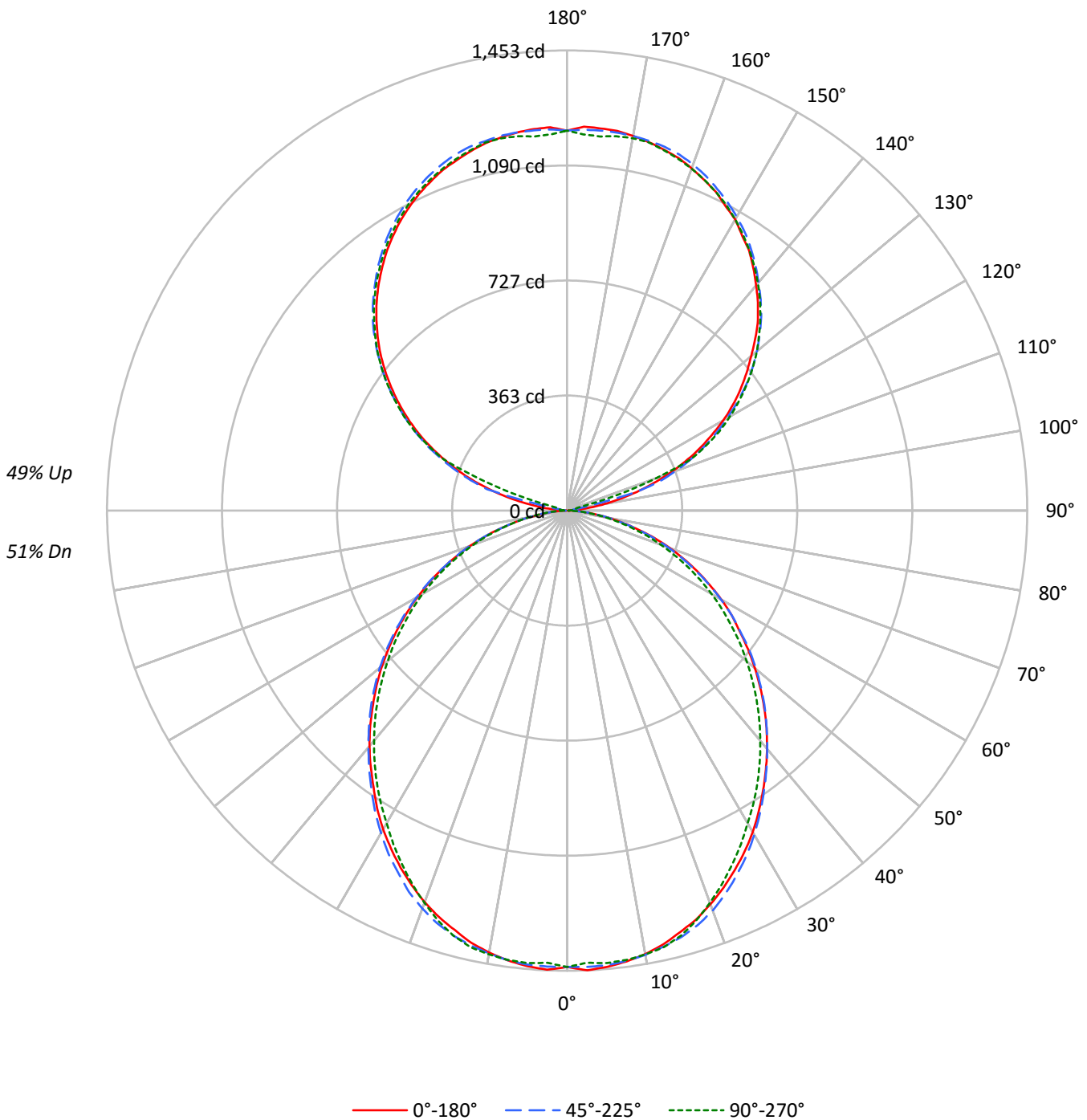
Lumens per Lamp: N/A  
Luminaire Lumens: 7334.9 lumens  
Efficiency: N/A  
Efficacy: 109.5 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.32  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4.08' x H: 0.38')  
CIE Type: General Diffuse

Input Watts (W): 67  
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	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	98	94	90	86	91	87	84	80	74	71	69	62	60	59	51	50	49	43
2	89	82	76	71	82	76	71	66	65	61	57	54	51	49	45	43	41	36
3	82	72	65	59	75	67	60	55	57	52	48	48	44	41	40	37	35	31
4	75	64	56	50	69	59	52	47	51	45	41	43	39	35	35	32	30	26
5	68	57	49	43	63	53	46	40	45	40	35	38	34	31	32	29	26	23
6	63	51	43	37	58	47	40	35	41	35	31	35	30	27	29	26	23	20
7	58	46	38	32	54	43	36	31	37	31	27	32	27	24	26	23	20	18
8	54	42	34	29	50	39	32	27	34	28	24	29	24	21	24	21	18	16
9	50	38	31	26	47	36	29	24	31	25	22	27	22	19	22	19	17	14
10	47	35	28	23	44	33	26	22	29	23	19	25	20	17	21	17	15	13

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

	0°	90°	180°
0°	15194	15194	15194
5°	15183	13417	15162
10°	14983	12049	14930
15°	14681	10816	14607
20°	14365	9566	14289
25°	13968	8441	13879
30°	13551	7438	13435
35°	13050	6579	12893
40°	12550	5783	12409
45°	12019	5046	11841
50°	11444	4355	11281
55°	10807	3697	10629
60°	10225	3089	9916
65°	9443	2479	9067
70°	8469	1890	8025
75°	7100	1303	6584
80°	5310	779	4751
85°	3010	333	2656



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	136.6	1.9
10°-20°	390.0	5.3
20°-30°	576.4	7.9
30°-40°	670.9	9.1
40°-50°	673.3	9.2
50°-60°	589.2	8.0
60°-70°	435.2	5.9
70°-80°	237.7	3.2
80°-90°	61.5	0.8
90°-100°	28.2	0.4
100°-110°	197.5	2.7
110°-120°	472.6	6.4
120°-130°	611.8	8.3
130°-140°	664.0	9.1
140°-150°	628.6	8.6
150°-160°	513.4	7.0
160°-170°	333.6	4.5
170°-180°	114.5	1.6
0°-30°	1103.0	15.0
0°-40°	1773.9	24.2
0°-60°	3036.4	41.4
0°-90°	3770.8	51.4
90°-120°	698.3	9.5
90°-150°	2602.7	35.5
90°-180°	3564.0	48.6
0°-180°	7334.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1441	1441	1441	1441	1441	
5°	1446	1441	1434	1439	1444	137
15°	1378	1394	1389	1389	1371	389
25°	1252	1269	1233	1262	1244	577
35°	1079	1083	1048	1077	1066	675
45°	880	883	846	876	867	679
55°	665	668	632	662	654	597
65°	453	448	419	437	435	448
75°	234	229	211	216	217	249
85°	51	55	50	49	45	59
90°	3	6	4	5	2	5
95°	35	15	17	17	43	47
105°	227	223	34	261	246	241
115°	460	478	483	490	475	453
125°	668	689	692	691	678	596
135°	852	867	863	868	852	655
145°	1002	1011	1004	1012	995	625
155°	1111	1121	1111	1122	1104	511
165°	1180	1189	1178	1189	1175	333
175°	1211	1204	1186	1205	1209	115
180°	1200	1200	1200	1200	1200	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1441.0	1441.0	1441.0	1441.0	1441.0	1441.0	1441.0	1441.0	1441.0
2.5°	1453.0	1438.0	1442.0	1440.0	1429.0	1440.0	1441.0	1437.0	1451.0
5°	1446.0	1433.0	1441.0	1438.0	1434.0	1438.0	1439.0	1431.0	1444.0
7.5°	1436.0	1425.0	1434.0	1433.0	1431.0	1433.0	1432.0	1421.0	1433.0
10°	1422.0	1412.0	1424.0	1426.0	1423.0	1425.0	1420.0	1409.0	1417.0
12.5°	1403.0	1395.0	1410.0	1414.0	1412.0	1413.0	1406.0	1390.0	1398.0
15°	1378.0	1374.0	1394.0	1397.0	1389.0	1394.0	1389.0	1369.0	1371.0
17.5°	1354.0	1350.0	1372.0	1368.0	1357.0	1365.0	1366.0	1344.0	1346.0
20°	1323.0	1321.0	1344.0	1332.0	1318.0	1328.0	1337.0	1315.0	1316.0
22.5°	1289.0	1291.0	1308.0	1291.0	1277.0	1287.0	1304.0	1283.0	1281.0
25°	1252.0	1258.0	1269.0	1249.0	1233.0	1244.0	1262.0	1250.0	1244.0
27.5°	1214.0	1223.0	1227.0	1204.0	1188.0	1199.0	1222.0	1214.0	1204.0
30°	1172.0	1183.0	1182.0	1158.0	1140.0	1152.0	1176.0	1175.0	1162.0
32.5°	1126.0	1141.0	1133.0	1110.0	1095.0	1104.0	1128.0	1131.0	1116.0
35°	1079.0	1095.0	1083.0	1061.0	1048.0	1057.0	1077.0	1086.0	1066.0
37.5°	1031.0	1047.0	1033.0	1012.0	999.0	1008.0	1027.0	1038.0	1019.0
40°	982.0	997.0	983.0	965.0	949.0	959.0	976.0	988.0	971.0
42.5°	932.0	948.0	933.0	915.0	898.0	911.0	926.0	938.0	920.0
45°	880.0	897.0	883.0	862.0	846.0	859.0	876.0	886.0	867.0
47.5°	827.0	847.0	831.0	809.0	793.0	806.0	824.0	834.0	816.0
50°	774.0	791.0	779.0	756.0	740.0	752.0	772.0	780.0	763.0
52.5°	720.0	740.0	726.0	703.0	688.0	698.0	717.0	726.0	708.0
55°	665.0	681.0	668.0	649.0	632.0	644.0	662.0	668.0	654.0
57.5°	617.0	629.0	617.0	596.0	580.0	589.0	606.0	614.0	600.0
60°	562.0	573.0	561.0	541.0	527.0	535.0	549.0	559.0	545.0
62.5°	507.0	518.0	504.0	486.0	473.0	482.0	494.0	503.0	490.0
65°	453.0	463.0	448.0	432.0	419.0	428.0	437.0	447.0	435.0
67.5°	398.0	407.0	393.0	377.0	366.0	373.0	381.0	391.0	381.0
70°	344.0	351.0	339.0	324.0	314.0	320.0	327.0	335.0	326.0
72.5°	290.0	299.0	284.0	272.0	263.0	265.0	273.0	279.0	272.0
75°	234.0	240.0	229.0	219.0	211.0	213.0	216.0	225.0	217.0
77.5°	182.0	189.0	180.0	171.0	165.0	167.0	168.0	174.0	166.0
80°	133.0	139.0	133.0	126.0	122.0	123.0	123.0	127.0	119.0
82.5°	89.0	95.0	91.0	86.0	85.0	83.0	83.0	86.0	78.0
85°	51.0	58.0	55.0	51.0	50.0	49.0	49.0	51.0	45.0
87.5°	23.0	28.0	25.0	22.0	20.0	19.0	19.0	22.0	17.0
90°	3.0	7.0	6.0	4.0	4.0	4.0	5.0	6.0	2.0
92.5°	7.6	9.0	9.0	9.0	9.0	10.4	11.1	11.1	13.2
95°	35.4	13.2	15.3	16.7	17.4	17.4	16.7	14.6	43.1
97.5°	73.6	58.3	18.8	20.8	22.2	21.5	20.1	74.3	83.3
100°	119.5	135.4	20.8	23.6	25.0	24.3	22.9	152.1	132.0
102.5°	170.2	188.9	75.0	26.4	27.1	26.4	114.6	204.9	188.2
105°	227.1	243.1	223.0	44.5	34.0	54.2	261.2	259.1	245.9
107.5°	284.8	300.7	304.2	197.3	178.5	207.0	319.5	315.3	305.6
110°	343.8	355.6	363.3	366.7	299.4	371.6	376.5	370.9	362.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	402.8	415.4	422.3	427.2	421.6	430.6	432.0	426.5	418.8
115°	459.8	470.9	477.9	485.5	483.4	486.9	489.7	482.0	475.1
117.5°	513.3	527.2	531.3	539.0	541.8	539.0	541.8	535.5	529.3
120°	569.5	580.7	583.4	590.4	593.9	589.7	593.2	587.6	580.7
122.5°	620.2	630.0	636.9	639.7	643.2	638.3	642.5	636.2	630.0
125°	668.2	678.6	689.0	688.3	691.8	686.2	691.1	683.5	677.9
127.5°	714.0	724.4	736.9	734.9	737.6	732.1	738.3	729.3	724.4
130°	758.5	771.0	782.1	779.3	782.1	777.2	782.8	774.4	769.6
132.5°	806.4	818.2	825.1	822.4	822.4	819.6	827.2	818.2	811.3
135°	852.2	859.9	866.8	862.7	862.7	859.9	868.2	859.9	851.5
137.5°	891.1	899.5	904.3	901.5	901.5	898.1	906.4	898.8	890.4
140°	928.6	936.3	940.4	937.0	937.0	934.2	942.5	936.3	927.2
142.5°	965.4	972.4	976.6	971.0	971.0	968.2	978.6	971.7	961.3
145°	1001.6	1006.4	1011.3	1003.0	1003.6	999.5	1012.0	1005.0	995.3
147.5°	1028.7	1037.7	1043.2	1033.5	1033.5	1030.0	1043.2	1036.3	1025.2
150°	1061.3	1064.8	1071.0	1062.7	1062.0	1059.2	1071.7	1064.1	1054.4
152.5°	1083.5	1091.9	1097.4	1088.4	1087.7	1084.2	1098.1	1089.8	1080.0
155°	1110.6	1114.1	1121.0	1112.7	1110.6	1109.2	1122.4	1112.0	1104.4
157.5°	1130.1	1134.2	1143.9	1136.3	1130.8	1132.8	1143.3	1131.4	1125.2
160°	1150.2	1151.6	1162.7	1155.1	1148.8	1151.6	1162.0	1147.4	1145.3
162.5°	1167.6	1168.3	1178.7	1169.6	1164.8	1165.5	1178.0	1163.4	1159.9
165°	1180.1	1178.7	1189.1	1181.5	1178.0	1178.0	1189.1	1175.9	1175.2
167.5°	1191.9	1191.2	1196.0	1191.2	1190.5	1187.0	1195.3	1186.3	1188.4
170°	1200.9	1198.1	1200.9	1194.0	1194.0	1190.5	1201.6	1194.0	1196.7
172.5°	1209.2	1203.7	1203.7	1194.0	1191.9	1191.2	1204.4	1200.2	1204.4
175°	1211.3	1206.5	1204.4	1194.0	1185.6	1191.9	1205.1	1202.3	1209.2
177.5°	1213.4	1205.8	1203.7	1191.2	1189.1	1189.8	1204.4	1203.0	1211.3
180°	1199.5	1199.5	1199.5	1199.5	1199.5	1199.5	1199.5	1199.5	1199.5

(END OF REPORT)