

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: P243388

Luminaire Tested: **S123RDR-H1000D927-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P243388  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-64)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123RDR-H1000D927-X4F0-XX-UDD-F-W  
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 2700K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2804.0 lumens  
Efficiency: N/A  
Efficacy: 89.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.07 / 1.22  
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')  
CIE Type: Direct

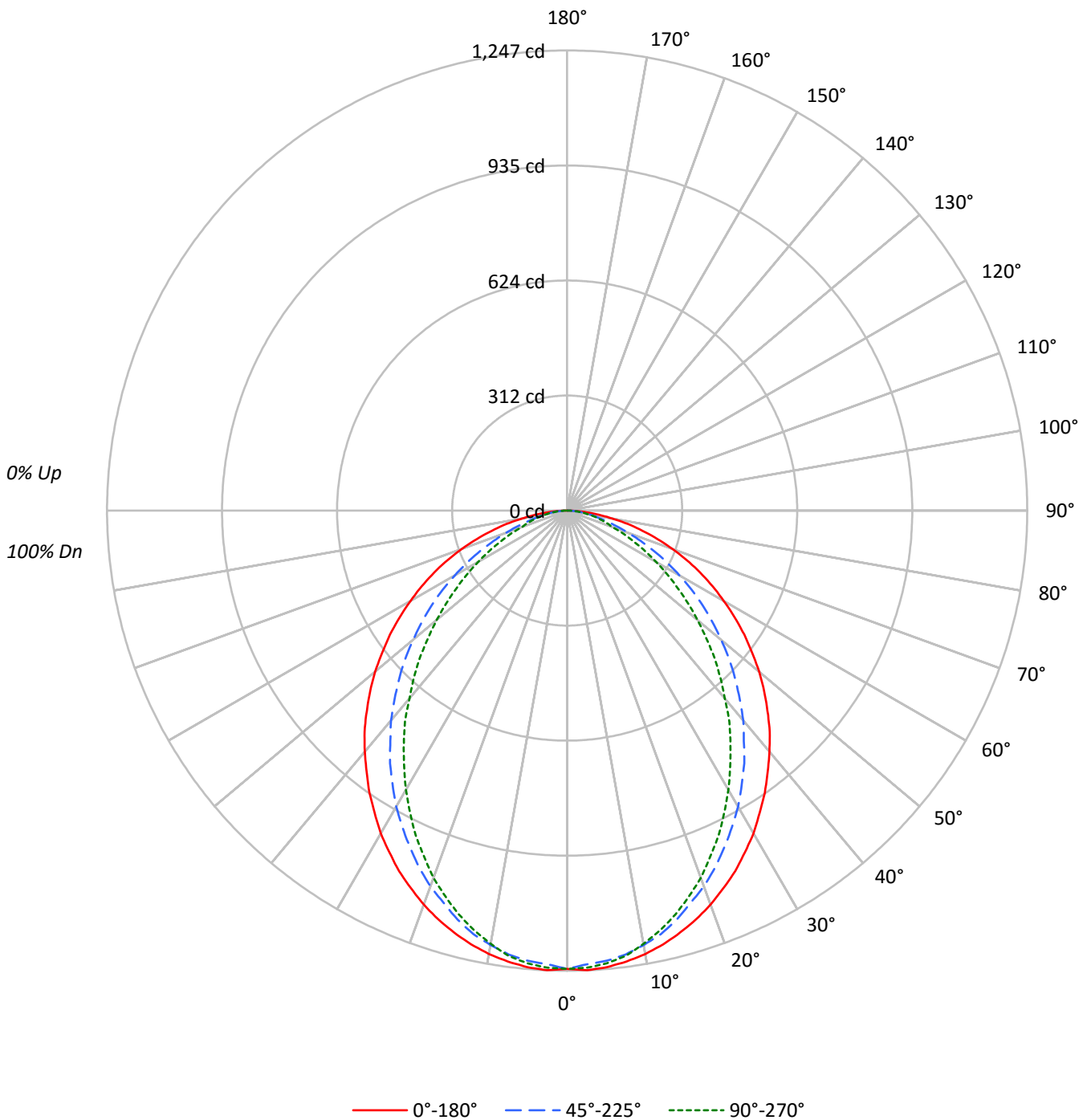
Input Watts (W): 31.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	110	105	101	98	107	103	99	96	99	96	93	95	93	90	91	89	88	86
2	101	93	87	81	98	91	85	80	87	83	78	84	80	77	81	78	75	73
3	92	82	75	69	90	81	74	68	78	72	67	75	70	66	73	68	65	62
4	85	73	65	59	83	72	64	58	70	63	58	67	62	57	65	60	56	54
5	78	66	58	51	76	65	57	51	63	56	50	61	55	50	59	54	49	47
6	73	60	51	45	71	59	51	45	57	50	45	56	49	44	54	48	44	42
7	67	55	46	40	66	54	46	40	52	45	40	51	44	40	49	44	39	37
8	63	50	42	36	61	49	41	36	48	41	36	47	40	36	46	40	35	34
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30
10	55	43	35	30	54	42	35	30	41	34	30	40	34	30	39	34	29	28

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

	0°	45°	90°
0°	15053	15053	15053
5°	15111	14903	14983
10°	15016	14711	14675
15°	14854	14400	14220
20°	14655	13978	13658
25°	14416	13472	12986
30°	14138	12963	12229
35°	13818	12378	11419
40°	13494	11742	10519
45°	13163	11038	9680
50°	12808	10272	8706
55°	12377	9474	7720
60°	11886	8533	6730
65°	11409	7469	5745
70°	10749	6255	4597
75°	9919	4960	4379
80°	8656	4398	3993
85°	7301	3852	3713



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	116.8	4.2
10°-20°	325.3	11.6
20°-30°	468.3	16.7
30°-40°	527.5	18.8
40°-50°	503.9	18.0
50°-60°	412.0	14.7
60°-70°	276.7	9.9
70°-80°	138.0	4.9
80°-90°	35.7	1.3
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°	910.3	32.5
0°-40°	1437.8	51.3
0°-60°	2353.7	83.9
0°-90°	2804.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2804.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1242	1242	1242	1242	1242	
5°	1242	1237	1225	1234	1231	118
15°	1184	1175	1148	1141	1133	334
25°	1078	1054	1007	985	971	496
35°	934	898	836	790	772	584
45°	768	722	644	588	565	593
55°	586	533	448	386	365	523
65°	398	342	260	213	200	393
75°	212	161	106	95	94	224
85°	52	30	28	26	27	61
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1241.9	1241.9	1241.9	1241.9	1241.9	1241.9	1241.9	1241.9	1241.9	1241.9	1241.9
2.5°	1246.7	1243.8	1240.0	1241.0	1241.9	1242.9	1242.9	1241.9	1239.1	1235.3	1230.5
5°	1241.9	1239.1	1235.3	1235.3	1237.2	1237.2	1237.2	1236.2	1233.3	1229.5	1224.8
7.5°	1232.4	1230.5	1225.7	1226.7	1227.6	1227.6	1227.6	1226.7	1222.9	1218.1	1213.3
10°	1220.0	1217.1	1213.3	1213.3	1214.3	1214.3	1214.3	1212.4	1207.6	1201.9	1195.2
12.5°	1203.8	1200.9	1197.1	1197.1	1197.1	1197.1	1197.1	1194.2	1186.6	1180.9	1175.2
15°	1183.7	1180.9	1177.1	1177.1	1176.1	1175.2	1173.3	1168.5	1161.8	1155.1	1147.5
17.5°	1161.8	1158.0	1153.2	1152.3	1151.3	1150.4	1147.5	1144.6	1135.1	1125.6	1114.1
20°	1136.1	1132.2	1127.5	1126.5	1123.7	1120.8	1118.9	1113.2	1102.7	1091.2	1083.6
22.5°	1107.4	1103.6	1098.9	1096.9	1091.2	1089.3	1086.5	1077.9	1066.4	1055.9	1047.3
25°	1077.9	1073.1	1067.4	1064.5	1057.8	1054.0	1053.1	1040.7	1029.2	1017.8	1007.3
27.5°	1043.5	1039.7	1034.9	1029.2	1022.5	1017.8	1015.9	1004.4	990.1	976.8	967.2
30°	1010.1	1004.4	999.7	993.0	983.4	978.7	974.8	963.4	951.0	934.8	926.2
32.5°	971.0	967.2	961.5	954.8	945.3	941.5	935.7	921.4	905.2	893.8	880.4
35°	933.8	930.0	921.4	914.8	901.4	897.6	891.9	879.5	861.3	848.0	836.5
37.5°	892.8	888.0	881.4	871.8	860.4	855.6	848.0	835.6	814.6	801.2	786.9
40°	852.8	846.1	838.4	828.0	816.5	811.7	805.1	786.9	769.8	754.5	742.1
42.5°	812.7	805.1	795.5	786.0	773.6	766.9	759.3	742.1	723.0	708.7	691.6
45°	767.9	762.1	752.6	741.2	726.8	722.1	713.5	695.4	676.3	661.0	643.9
47.5°	724.0	717.3	707.8	696.3	682.0	675.3	666.8	648.6	629.6	610.5	595.2
50°	679.2	672.5	661.0	649.6	636.2	627.6	620.0	601.9	580.9	563.7	544.7
52.5°	631.5	625.7	616.2	604.8	587.6	580.9	573.3	553.2	533.2	513.2	496.0
55°	585.7	581.9	570.4	559.0	540.8	533.2	525.6	504.6	484.6	464.5	448.3
57.5°	538.0	535.1	523.7	510.3	494.1	486.5	476.9	455.9	436.9	416.8	399.7
60°	490.3	487.4	476.0	462.6	447.4	437.8	427.3	411.1	389.2	371.1	352.0
62.5°	444.5	440.7	431.1	416.8	399.7	390.1	380.6	361.5	341.5	322.4	305.2
65°	397.8	393.0	381.5	367.2	351.0	342.4	332.9	314.8	294.7	276.6	260.4
67.5°	351.0	346.3	333.9	322.4	303.3	294.7	286.2	268.0	249.0	230.8	215.6
70°	303.3	298.6	289.0	273.8	257.5	249.0	240.4	221.3	204.1	190.8	176.5
72.5°	256.6	252.8	243.2	228.9	213.7	205.1	195.5	179.3	164.1	149.8	139.3
75°	211.8	206.0	197.5	184.1	168.8	161.2	154.5	138.3	124.0	114.5	105.9
77.5°	168.8	162.2	152.6	142.1	127.8	120.2	113.5	100.2	90.6	83.9	82.0
80°	124.0	123.0	113.5	102.1	89.7	83.9	77.3	68.7	65.8	64.9	63.0
82.5°	86.8	83.0	75.4	64.9	55.3	51.5	49.6	47.7	45.8	45.8	43.9
85°	52.5	48.6	42.0	33.4	31.5	30.5	29.6	29.6	28.6	27.7	27.7
87.5°	22.9	19.1	14.3	13.4	12.4	12.4	13.4	13.4	13.4	12.4	12.4
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):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	1241.9	1241.9	1241.9	1241.9	1241.9	1241.9	1241.9	1241.9	1241.9	1241.9
2.5°	1232.4	1237.2	1240.0	1241.0	1241.0	1241.0	1241.9	1241.9	1241.0	1240.0
5°	1225.7	1230.5	1232.4	1234.3	1234.3	1234.3	1234.3	1234.3	1233.3	1231.4
7.5°	1215.2	1218.1	1220.9	1220.0	1220.0	1219.0	1218.1	1219.0	1217.1	1217.1
10°	1196.1	1199.0	1200.9	1198.1	1198.1	1199.0	1199.0	1198.1	1195.2	1192.3
12.5°	1174.2	1177.1	1174.2	1175.2	1173.3	1171.3	1170.4	1169.4	1166.6	1164.7
15°	1145.6	1145.6	1143.7	1143.7	1140.8	1137.0	1136.1	1137.0	1133.2	1133.2
17.5°	1114.1	1112.2	1109.3	1107.4	1106.5	1106.5	1102.7	1102.7	1097.9	1096.9
20°	1079.8	1077.9	1075.0	1070.2	1068.3	1069.3	1065.5	1062.6	1059.7	1058.8
22.5°	1043.5	1038.8	1035.9	1031.1	1027.3	1027.3	1024.5	1019.7	1016.8	1014.0
25°	1002.5	997.7	992.0	988.2	985.3	980.6	978.7	974.8	972.0	971.0
27.5°	960.5	952.9	945.3	941.5	939.6	933.8	931.0	929.1	923.3	922.4
30°	915.7	910.0	900.4	893.8	889.0	890.0	883.3	879.5	876.6	873.7
32.5°	872.8	863.2	853.7	845.1	839.4	838.4	831.8	828.0	825.1	822.2
35°	824.1	814.6	803.2	795.5	789.8	786.9	780.3	778.4	773.6	771.7
37.5°	775.5	765.0	753.6	744.0	740.2	733.5	730.7	725.9	722.1	722.1
40°	727.8	715.4	704.0	692.5	687.7	683.9	676.3	672.5	667.7	664.8
42.5°	678.2	663.9	653.4	642.9	636.2	633.4	624.8	620.0	615.2	614.3
45°	628.6	614.3	600.9	590.4	587.6	581.9	573.3	566.6	565.6	564.7
47.5°	578.0	563.7	551.3	539.9	536.1	529.4	523.7	518.9	513.2	510.3
50°	529.4	515.1	501.7	489.3	484.6	478.8	473.1	466.4	464.5	461.7
52.5°	480.7	464.5	450.2	438.8	435.0	430.2	423.5	417.8	414.9	413.0
55°	431.1	414.9	402.5	391.1	386.3	383.5	375.8	371.1	367.2	365.3
57.5°	382.5	366.3	354.8	346.3	339.6	336.7	329.1	324.3	322.4	321.5
60°	336.7	321.5	309.1	300.5	294.7	291.9	286.2	281.4	278.5	277.6
62.5°	290.9	277.6	266.1	257.5	253.7	249.9	245.1	241.3	238.5	238.5
65°	247.1	233.7	223.2	216.5	212.7	210.8	205.1	203.2	200.3	200.3
67.5°	204.1	194.6	187.0	178.4	175.5	175.5	169.8	167.9	166.0	166.0
70°	166.9	158.3	149.8	145.0	142.1	141.2	136.4	133.5	131.6	129.7
72.5°	130.7	123.0	115.4	114.5	114.5	113.5	113.5	111.6	111.6	112.6
75°	100.2	98.2	96.3	96.3	95.4	94.4	94.4	93.5	93.5	93.5
77.5°	80.1	79.2	78.2	77.3	77.3	76.3	75.4	75.4	75.4	75.4
80°	61.0	60.1	60.1	59.1	58.2	59.1	58.2	58.2	57.2	57.2
82.5°	42.9	42.9	42.9	42.0	42.0	42.0	42.0	41.0	41.0	42.0
85°	26.7	26.7	26.7	26.7	25.8	26.7	25.8	25.8	25.8	26.7
87.5°	11.4	12.4	11.4	12.4	12.4	11.4	11.4	11.4	11.4	11.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)