

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P242557

Luminaire Tested: S123RDRP-S1000D940-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242557  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-25)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123RDRP-S1000D940-X4F0-XX-UDD-F-W  
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

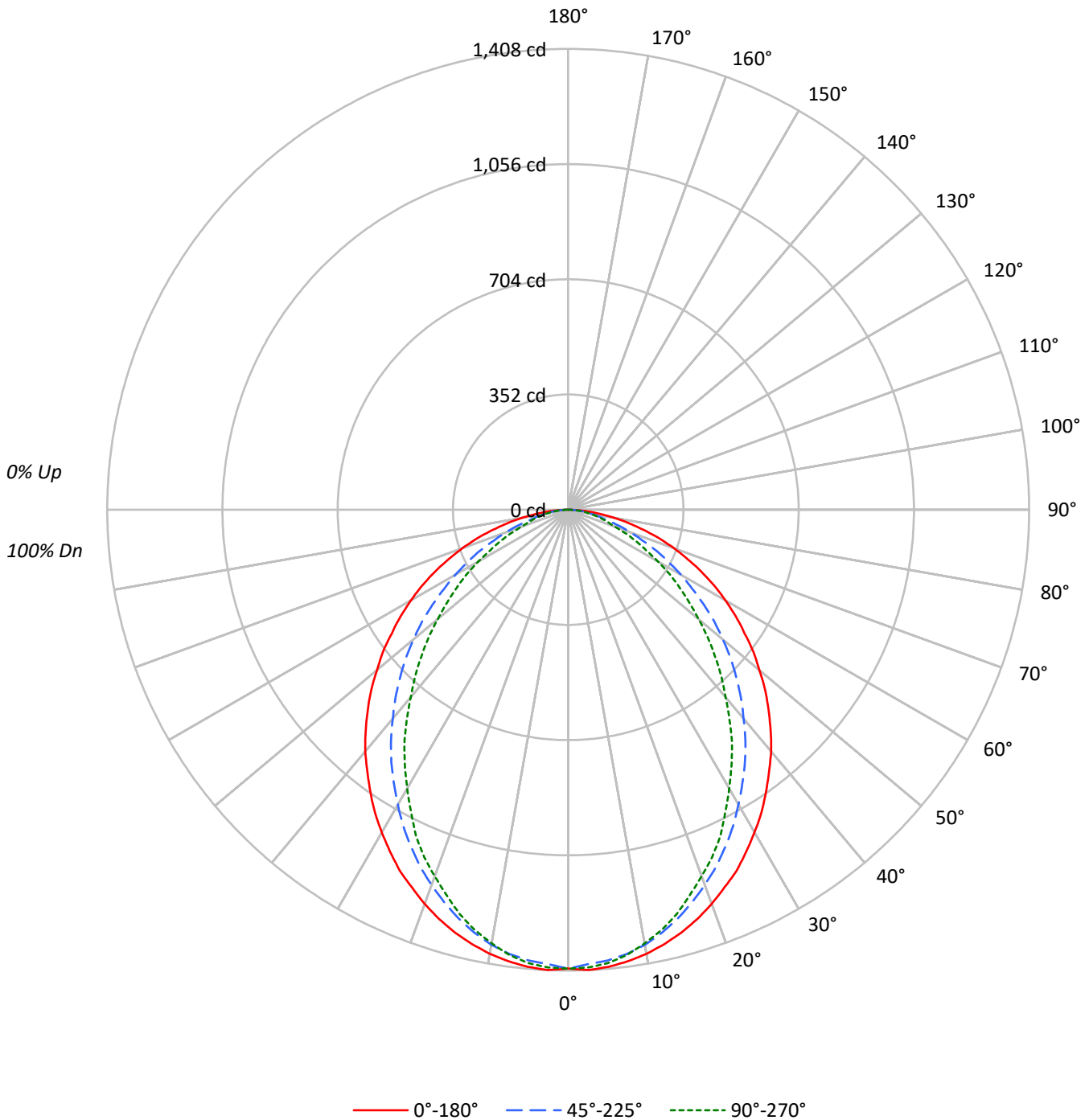
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3167.6 lumens  
Efficiency: N/A  
Efficacy: 91.0 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): 34.8  
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: 24 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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	110	105	101	98	107	103	99	96	99	96	93	95	93	90	91	89	88
2	100	93	86	81	98	91	85	80	87	83	78	84	80	77	81	78	75
3	92	82	75	68	90	81	74	68	78	72	67	75	70	66	73	68	64
4	85	73	65	59	83	72	64	58	70	63	58	67	62	57	65	60	56
5	78	66	57	51	76	65	57	51	63	56	50	61	55	50	59	54	49
6	73	60	51	45	71	59	51	45	57	50	45	55	49	44	54	48	44
7	67	54	46	40	66	54	46	40	52	45	40	51	44	39	49	44	39
8	63	50	42	36	61	49	41	36	48	41	36	47	40	36	46	40	35
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32
10	55	43	35	30	54	42	35	30	41	34	30	40	34	29	39	34	29

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

	0°	45°	90°
0°	16995	16995	16995
5°	17060	16825	16921
10°	16963	16614	16558
15°	16782	16224	16054
20°	16532	15740	15372
25°	16274	15193	14706
30°	15932	14563	13767
35°	15582	13933	12906
40°	15258	13189	11839
45°	14835	12455	10877
50°	14367	11622	9800
55°	13891	10670	8795
60°	13452	9648	7692
65°	12884	8544	6588
70°	12170	7173	5320
75°	11132	5643	5006
80°	9919	4998	4607
85°	8386	4423	4117

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 14835 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	131.8	4.2
10°-20°	366.7	11.6
20°-30°	527.9	16.7
30°-40°	594.5	18.8
40°-50°	568.7	18.0
50°-60°	465.5	14.7
60°-70°	313.9	9.9
70°-80°	157.4	5.0
80°-90°	41.2	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°	1026.4	32.4
0°-40°	1620.9	51.2
0°-60°	2655.2	83.8
0°-90°	3167.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3167.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1402	1402	1402	1402	1402	
5°	1402	1396	1383	1393	1391	133
15°	1337	1325	1293	1287	1279	377
25°	1217	1188	1136	1112	1100	560
35°	1053	1012	942	893	872	659
45°	865	814	727	662	634	668
55°	657	602	505	439	416	589
65°	449	387	298	242	230	445
75°	238	183	120	109	107	253
85°	60	35	32	30	30	70
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1402.1	1402.1	1402.1	1402.1	1402.1
2.5°	1407.8	1403.2	1389.6	1402.1	1399.8
5°	1402.1	1396.4	1382.8	1393.0	1390.7
7.5°	1391.9	1386.2	1369.1	1376.0	1372.5
10°	1378.2	1370.3	1349.8	1350.9	1345.3
12.5°	1358.9	1349.8	1323.6	1322.5	1315.7
15°	1337.3	1324.8	1292.9	1287.3	1279.3
17.5°	1311.1	1297.5	1257.7	1246.3	1234.9
20°	1281.6	1263.4	1220.2	1205.4	1191.7
22.5°	1248.6	1227.0	1180.4	1161.0	1148.5
25°	1216.8	1188.3	1136.0	1112.1	1099.6
27.5°	1178.1	1147.4	1090.5	1058.7	1039.4
30°	1138.3	1104.2	1040.5	1001.8	983.6
32.5°	1098.5	1058.7	990.5	947.2	927.9
35°	1053.0	1012.1	941.6	892.7	872.2
37.5°	1007.5	963.2	889.3	834.7	809.7
40°	964.3	914.3	833.5	774.4	748.2
42.5°	915.4	865.4	781.2	715.3	692.5
45°	865.4	814.2	726.6	661.8	634.5
47.5°	816.5	759.6	673.2	602.7	578.8
50°	761.9	708.4	616.3	545.8	519.7
52.5°	713.0	653.9	562.9	489.0	466.2
55°	657.3	601.6	504.9	438.9	416.2
57.5°	607.2	547.0	449.2	386.6	367.3
60°	554.9	492.4	398.0	336.6	317.3
62.5°	502.6	440.1	345.7	288.8	268.4
65°	449.2	386.6	297.9	242.2	229.7
67.5°	395.7	332.0	245.6	203.6	189.9
70°	343.4	282.0	202.4	162.6	150.1
72.5°	291.1	230.8	160.3	129.6	126.2
75°	237.7	183.1	120.5	109.2	106.9
77.5°	188.8	138.7	94.4	87.6	85.3
80°	142.1	95.5	71.6	68.2	66.0
82.5°	97.8	59.1	51.2	47.8	47.8
85°	60.3	35.3	31.8	29.6	29.6
87.5°	27.3	14.8	14.8	13.6	12.5
90°	0.0	0.0	0.0	0.0	0.0

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**CIE UGR TABLE:**

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	21.29	22.85	21.66	23.16	23.47	18.66	20.22	19.03	20.53	20.84
	3H	23.07	24.47	23.45	24.79	25.15	19.77	21.17	20.15	21.50	21.86
	4H	23.73	25.04	24.13	25.39	25.77	20.17	21.48	20.57	21.83	22.21
	6H	24.21	25.42	24.62	25.79	26.18	20.49	21.70	20.90	22.07	22.46
	8H	24.36	25.52	24.79	25.91	26.31	20.60	21.75	21.02	22.14	22.54
	12H	24.46	25.57	24.89	25.95	26.38	20.67	21.78	21.10	22.16	22.59
4H	2H	21.55	22.86	21.95	23.21	23.59	19.37	20.69	19.77	21.04	21.41
	3H	23.51	24.60	23.92	25.00	25.40	20.65	21.74	21.06	22.14	22.54
	4H	24.28	25.27	24.71	25.68	26.12	21.13	22.11	21.56	22.53	22.97
	6H	24.88	25.73	25.33	26.18	26.63	21.55	22.41	22.01	22.85	23.31
	8H	25.07	25.87	25.53	26.31	26.78	21.70	22.50	22.16	22.94	23.41
	12H	25.22	25.93	25.70	26.41	26.88	21.81	22.52	22.29	23.00	23.47
8H	4H	24.34	25.14	24.80	25.58	26.05	21.45	22.25	21.92	22.70	23.16
	6H	25.00	25.66	25.49	26.15	26.63	21.97	22.63	22.46	23.12	23.60
	8H	25.23	25.83	25.75	26.34	26.82	22.17	22.76	22.68	23.27	23.76
	12H	25.43	25.96	25.94	26.45	27.01	22.34	22.87	22.85	23.36	23.92
12H	4H	24.33	25.04	24.81	25.52	25.99	21.50	22.21	21.98	22.69	23.16
	6H	24.99	25.58	25.50	26.09	26.58	22.03	22.62	22.54	23.13	23.62
	8H	25.26	25.78	25.77	26.27	26.84	22.28	22.81	22.79	23.30	23.86