

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: P242552

Luminaire Tested: S123RDRP-S1000D935-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242552  
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-S1000D935-X4F0-XX-UDD-F-W  
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

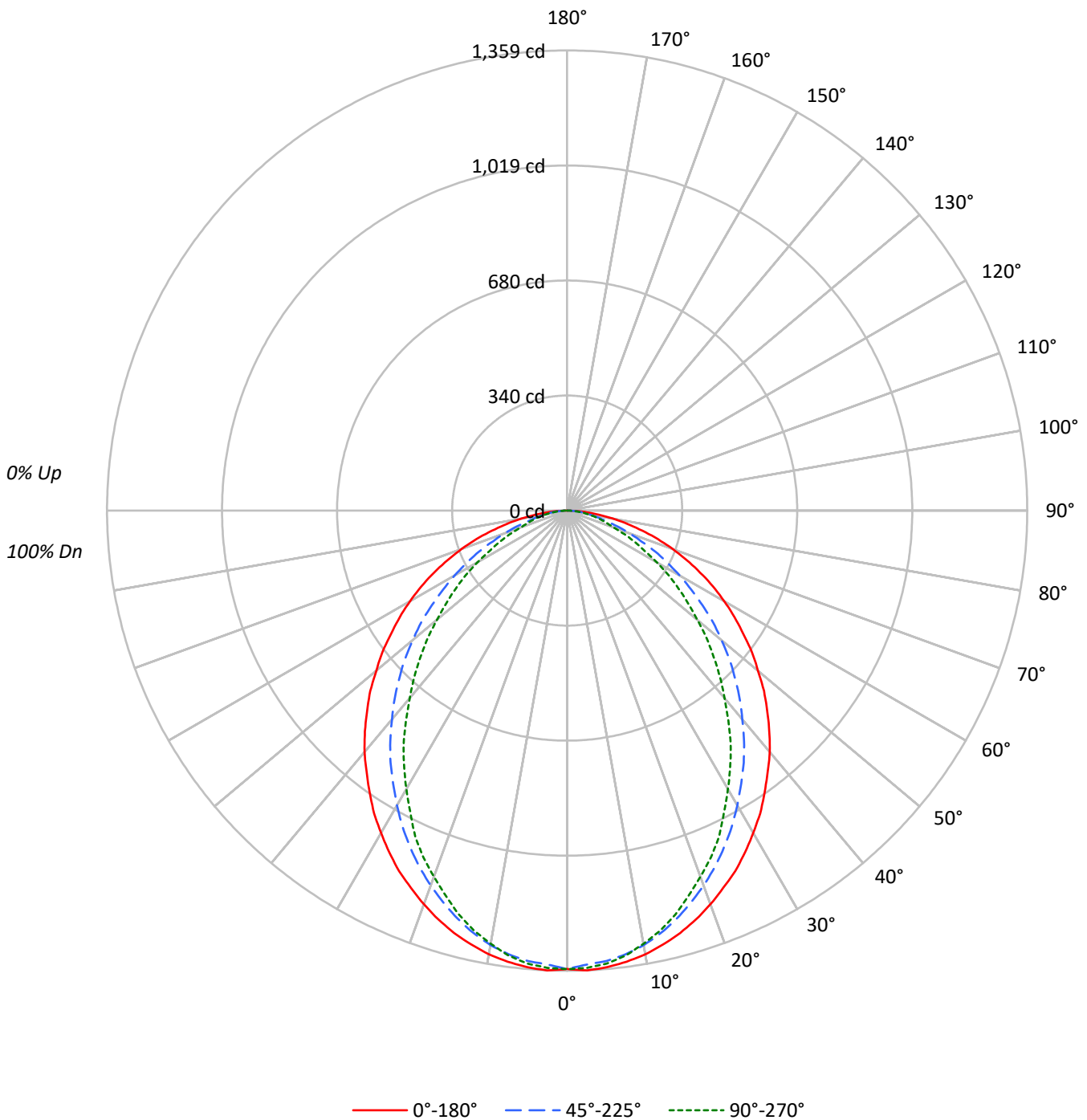
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3058.5 lumens  
Efficiency: N/A  
Efficacy: 87.9 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 (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: 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	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	100	93	86	81	98	91	85	80	87	83	78	84	80	77	81	78	75	73
3	92	82	75	68	90	81	74	68	78	72	67	75	70	66	73	68	64	62
4	85	73	65	59	83	72	64	58	70	63	58	67	62	57	65	60	56	54
5	78	66	57	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	55	49	44	54	48	44	42
7	67	54	46	40	66	54	46	40	52	45	40	51	44	39	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	29	39	34	29	28

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

	0°	45°	90°
0°	16410	16410	16410
5°	16472	16246	16339
10°	16380	16041	15987
15°	16203	15666	15500
20°	15961	15196	14843
25°	15712	14670	14201
30°	15383	14062	13294
35°	15044	13452	12462
40°	14733	12734	11432
45°	14324	12027	10503
50°	13873	11222	9463
55°	13411	10302	8493
60°	12989	9316	7425
65°	12439	8252	6362
70°	11752	6925	5135
75°	10748	5451	4833
80°	9577	4830	4446
85°	8094	4270	3964

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 14324 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	127.3	4.2
10°-20°	354.0	11.6
20°-30°	509.7	16.7
30°-40°	574.1	18.8
40°-50°	549.1	18.0
50°-60°	449.5	14.7
60°-70°	303.1	9.9
70°-80°	152.0	5.0
80°-90°	39.7	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°	991.1	32.4
0°-40°	1565.1	51.2
0°-60°	2563.7	83.8
0°-90°	3058.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3058.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1354	1354	1354	1354	1354	
5°	1354	1348	1335	1345	1343	128
15°	1291	1279	1248	1243	1235	364
25°	1175	1147	1097	1074	1062	540
35°	1017	977	909	862	842	636
45°	836	786	702	639	613	645
55°	635	581	488	424	402	569
65°	434	373	288	234	222	429
75°	230	177	116	105	103	244
85°	58	34	31	28	28	67
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1353.8	1353.8	1353.8	1353.8	1353.8
2.5°	1359.3	1354.9	1341.7	1353.8	1351.6
5°	1353.8	1348.3	1335.2	1345.0	1342.8
7.5°	1343.9	1338.4	1322.0	1328.6	1325.3
10°	1330.8	1323.1	1303.3	1304.4	1298.9
12.5°	1312.1	1303.3	1278.1	1277.0	1270.4
15°	1291.2	1279.2	1248.4	1242.9	1235.2
17.5°	1266.0	1252.8	1214.4	1203.4	1192.4
20°	1237.4	1219.9	1178.1	1163.9	1150.7
22.5°	1205.6	1184.7	1139.7	1121.0	1109.0
25°	1174.8	1147.4	1096.9	1073.8	1061.8
27.5°	1137.5	1107.9	1053.0	1022.2	1003.6
30°	1099.1	1066.1	1004.7	967.3	949.8
32.5°	1060.7	1022.2	956.3	914.6	896.0
35°	1016.7	977.2	909.1	861.9	842.2
37.5°	972.8	930.0	858.6	805.9	781.8
40°	931.1	882.8	804.8	747.7	722.5
42.5°	883.9	835.6	754.3	690.6	668.7
45°	835.6	786.2	701.6	639.0	612.7
47.5°	788.4	733.5	650.0	581.9	558.9
50°	735.7	684.0	595.1	527.0	501.8
52.5°	688.4	631.3	543.5	472.1	450.2
55°	634.6	580.8	487.5	423.8	401.9
57.5°	586.3	528.1	433.7	373.3	354.7
60°	535.8	475.4	384.3	325.0	306.3
62.5°	485.3	424.9	333.8	278.9	259.1
65°	433.7	373.3	287.7	233.9	221.8
67.5°	382.1	320.6	237.2	196.5	183.4
70°	331.6	272.3	195.4	157.0	144.9
72.5°	281.1	222.9	154.8	125.2	121.9
75°	229.5	176.8	116.4	105.4	103.2
77.5°	182.3	134.0	91.1	84.5	82.3
80°	137.2	92.2	69.2	65.9	63.7
82.5°	94.4	57.1	49.4	46.1	46.1
85°	58.2	34.0	30.7	28.5	28.5
87.5°	26.4	14.3	14.3	13.2	12.1
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	21.17	22.72	21.53	23.04	23.35	18.54	20.10	18.90	20.41	20.72
	3H	22.95	24.34	23.32	24.67	25.03	19.65	21.05	20.03	21.38	21.74
	4H	23.61	24.92	24.01	25.27	25.64	20.05	21.36	20.45	21.71	22.08
	6H	24.09	25.30	24.50	25.67	26.06	20.36	21.58	20.78	21.94	22.34
	8H	24.24	25.39	24.66	25.78	26.18	20.47	21.63	20.90	22.02	22.42
	12H	24.34	25.45	24.77	25.83	26.26	20.55	21.66	20.98	22.04	22.47
4H	2H	21.43	22.74	21.83	23.09	23.47	19.25	20.57	19.65	20.91	21.29
	3H	23.39	24.48	23.80	24.88	25.28	20.53	21.62	20.94	22.02	22.42
	4H	24.16	25.14	24.59	25.56	26.00	21.01	21.99	21.44	22.41	22.85
	6H	24.76	25.61	25.21	26.05	26.51	21.43	22.28	21.88	22.73	23.18
	8H	24.95	25.75	25.41	26.19	26.66	21.57	22.37	22.04	22.82	23.28
	12H	25.10	25.81	25.58	26.29	26.76	21.68	22.40	22.17	22.88	23.35
8H	4H	24.22	25.02	24.68	25.46	25.93	21.33	22.13	21.79	22.58	23.04
	6H	24.88	25.54	25.37	26.03	26.51	21.84	22.51	22.34	23.00	23.47
	8H	25.11	25.70	25.62	26.21	26.70	22.05	22.64	22.56	23.15	23.64
	12H	25.31	25.84	25.82	26.33	26.89	22.22	22.74	22.73	23.24	23.80
12H	4H	24.21	24.92	24.69	25.40	25.87	21.38	22.09	21.86	22.57	23.04
	6H	24.86	25.46	25.38	25.97	26.46	21.90	22.50	22.42	23.01	23.50
	8H	25.14	25.66	25.64	26.15	26.72	22.16	22.69	22.67	23.18	23.74