

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: P242700

Luminaire Tested: S124RDRP-S1020D927-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242700  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-26)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124RDRP-S1020D927-X4F0-XX-UDD-F-W  
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

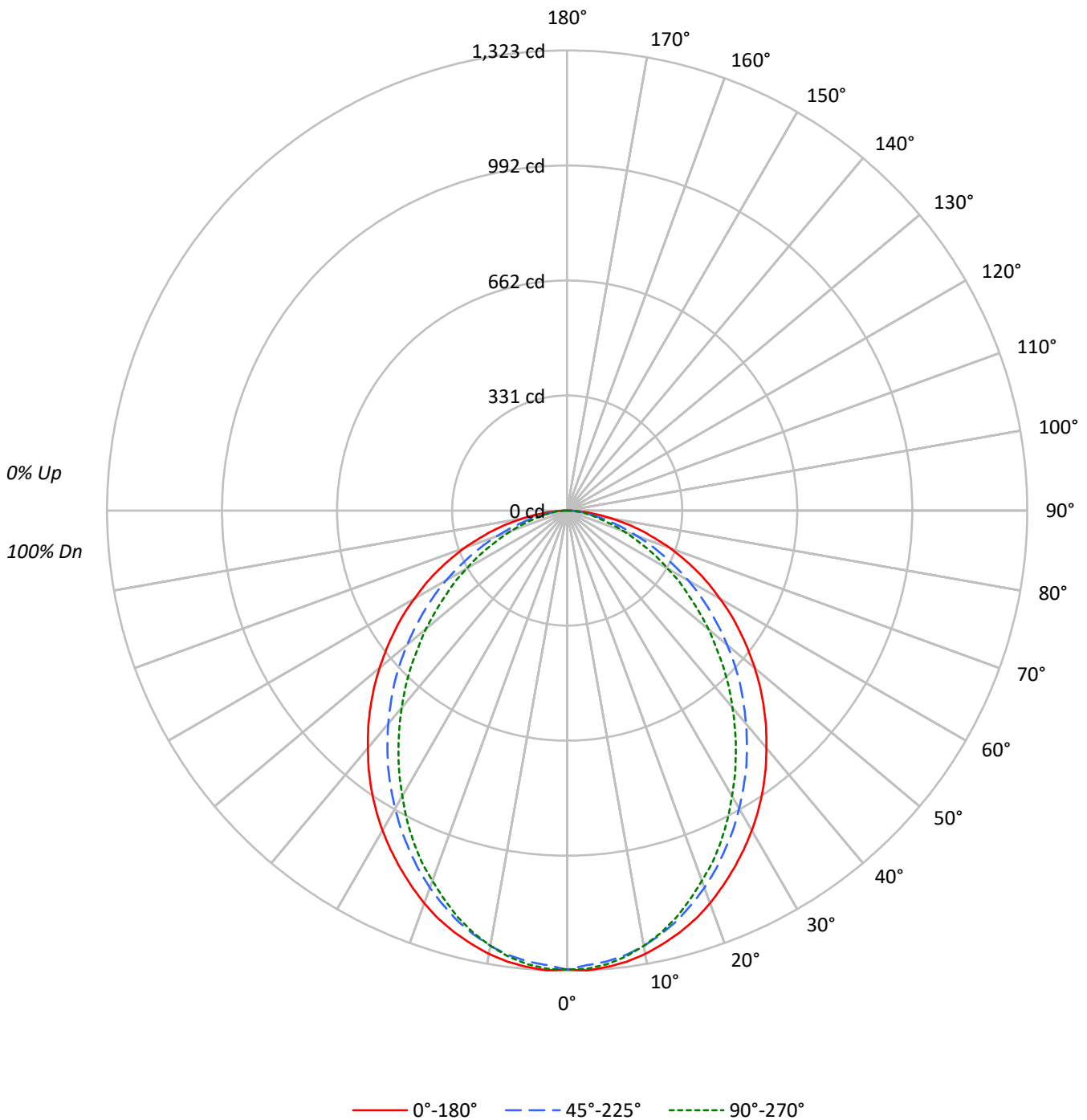
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3048.5 lumens  
Efficiency: N/A  
Efficacy: 87.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24  
Luminous Opening: Rectangular (W 0.31' 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	92	90	91	89	87	85
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	74	72
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	65	58	82	72	64	58	69	62	57	67	61	56	65	60	56	54
5	78	66	57	51	76	65	56	50	62	55	50	61	54	49	59	53	49	47
6	72	59	51	45	70	58	50	44	57	49	44	55	49	44	53	48	43	41
7	67	54	46	40	65	53	45	40	52	45	39	50	44	39	49	43	39	37
8	63	50	41	36	61	49	41	36	48	40	35	46	40	35	45	39	35	33
9	59	46	38	32	57	45	37	32	44	37	32	43	36	32	42	36	32	30
10	55	42	35	29	54	42	34	29	41	34	29	40	33	29	39	33	29	27

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

	0°	45°	90°
0°	11728	11728	11728
5°	11754	11610	11683
10°	11681	11471	11471
15°	11546	11231	11147
20°	11363	10913	10713
25°	11127	10542	10275
30°	10897	10151	9726
35°	10644	9746	9176
40°	10339	9284	8581
45°	10058	8826	7975
50°	9737	8299	7335
55°	9393	7750	6638
60°	9015	7148	5927
65°	8670	6396	5227
70°	8166	5567	4436
75°	7528	4616	3610
80°	6568	3517	3312
85°	5569	3192	2988

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 10058 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	124.1	4.1
10°-20°	345.9	11.3
20°-30°	499.4	16.4
30°-40°	566.0	18.6
40°-50°	546.5	17.9
50°-60°	454.3	14.9
60°-70°	313.6	10.3
70°-80°	158.5	5.2
80°-90°	40.2	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°	969.4	31.8
0°-40°	1535.4	50.4
0°-60°	2536.2	83.2
0°-90°	3048.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3048.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1319	1319	1319	1319	1319	
5°	1317	1313	1301	1311	1309	125
15°	1255	1246	1220	1218	1211	354
25°	1134	1116	1075	1058	1048	523
35°	981	949	898	864	846	613
45°	800	763	702	653	634	617
55°	606	566	500	448	428	542
65°	412	369	304	261	248	407
75°	219	182	134	111	105	231
85°	55	34	31	29	29	63
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1319.4	1319.4	1319.4	1319.4	1319.4
2.5°	1323.4	1319.4	1308.2	1319.4	1318.3
5°	1317.3	1313.3	1301.2	1311.3	1309.3
7.5°	1308.2	1304.2	1289.0	1296.1	1293.1
10°	1294.1	1289.0	1270.9	1274.9	1270.9
12.5°	1275.9	1269.9	1247.6	1249.7	1243.6
15°	1254.7	1245.6	1220.4	1218.3	1211.3
17.5°	1230.5	1217.3	1188.0	1183.0	1172.9
20°	1201.2	1188.0	1153.7	1145.6	1132.5
22.5°	1168.8	1153.7	1116.3	1103.2	1093.1
25°	1134.5	1116.3	1074.9	1057.7	1047.6
27.5°	1099.1	1076.9	1033.5	1013.3	999.1
30°	1061.7	1036.5	989.0	963.8	947.6
32.5°	1022.3	993.1	943.6	913.2	898.1
35°	980.9	948.6	898.1	863.7	845.6
37.5°	937.5	904.2	848.6	811.2	793.0
40°	891.0	857.7	800.1	757.7	739.5
42.5°	846.6	811.2	750.6	707.2	688.0
45°	800.1	762.7	702.1	652.6	634.4
47.5°	752.6	714.2	651.6	600.1	579.9
50°	704.1	664.7	600.1	549.6	530.4
52.5°	654.6	616.2	549.6	498.0	477.8
55°	606.1	565.7	500.1	447.5	428.3
57.5°	558.7	516.2	451.6	398.0	383.9
60°	507.1	466.7	402.1	349.5	333.4
62.5°	460.7	418.2	351.6	304.1	292.0
65°	412.2	368.7	304.1	260.6	248.5
67.5°	361.7	320.2	259.6	221.2	207.1
70°	314.2	271.8	214.2	180.8	170.7
72.5°	263.7	226.3	172.7	145.5	136.4
75°	219.2	181.8	134.4	111.1	105.1
77.5°	172.7	140.4	100.0	83.8	81.8
80°	128.3	99.0	68.7	65.7	64.7
82.5°	89.9	63.6	49.5	47.5	46.5
85°	54.6	34.3	31.3	29.3	29.3
87.5°	23.2	15.2	14.1	13.1	14.1
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	19.90	21.46	20.26	21.78	22.09	17.93	19.49	18.29	19.81	20.12
	3H	21.67	23.08	22.04	23.40	23.76	19.18	20.59	19.56	20.92	21.28
	4H	22.33	23.65	22.73	24.00	24.38	19.56	20.88	19.96	21.23	21.61
	6H	22.80	24.03	23.22	24.39	24.78	19.82	21.04	20.23	21.41	21.80
	8H	22.95	24.12	23.38	24.51	24.91	19.91	21.08	20.34	21.47	21.87
	12H	23.05	24.17	23.48	24.55	24.98	19.98	21.09	20.41	21.48	21.90
4H	2H	20.23	21.56	20.63	21.90	22.28	18.62	19.95	19.02	20.29	20.67
	3H	22.20	23.30	22.61	23.70	24.10	20.06	21.16	20.47	21.56	21.96
	4H	22.98	23.97	23.41	24.39	24.83	20.51	21.50	20.94	21.92	22.35
	6H	23.58	24.44	24.03	24.89	25.34	20.86	21.72	21.32	22.17	22.62
	8H	23.77	24.58	24.23	25.02	25.49	20.99	21.79	21.45	22.24	22.70
	12H	23.91	24.63	24.39	25.11	25.58	21.08	21.81	21.56	22.28	22.75
8H	4H	23.08	23.88	23.54	24.33	24.79	20.82	21.63	21.29	22.08	22.54
	6H	23.75	24.42	24.24	24.91	25.38	21.26	21.92	21.75	22.41	22.89
	8H	23.99	24.59	24.50	25.10	25.59	21.44	22.04	21.95	22.54	23.03
	12H	24.19	24.72	24.69	25.21	25.77	21.59	22.12	22.10	22.61	23.18
12H	4H	23.07	23.79	23.55	24.27	24.74	20.86	21.59	21.34	22.06	22.53
	6H	23.74	24.34	24.25	24.85	25.33	21.31	21.91	21.82	22.42	22.90
	8H	24.02	24.55	24.53	25.04	25.60	21.54	22.07	22.05	22.56	23.12