

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: P242526

Luminaire Tested: S123RDRP-S560D927-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242526  
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-S560D927-X4F0-XX-UDD-F-W  
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

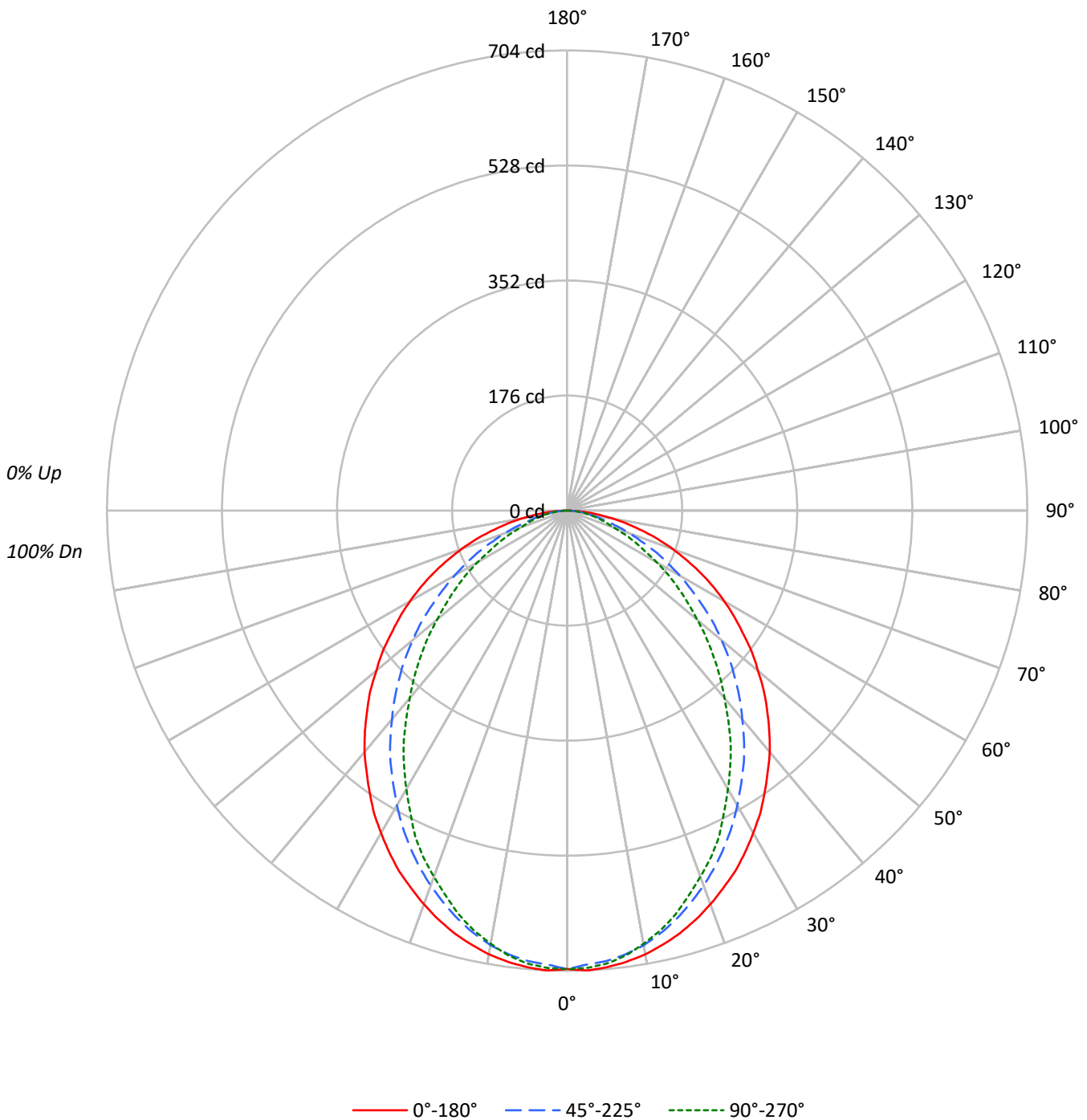
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1584.5 lumens  
Efficiency: N/A  
Efficacy: 84.3 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): 18.8  
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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	110	105	101	98	107	103	99	96	99	96	93	95	93	90	91	89	88	86				86
2	100	93	86	81	98	91	85	80	87	83	78	84	80	77	81	78	75	73				73
3	92	82	75	68	90	81	74	68	78	72	67	75	70	66	73	68	64	62				62
4	85	73	65	59	83	72	64	58	70	63	58	67	62	57	65	60	56	54				54
5	78	66	57	51	76	65	57	51	63	56	50	61	55	50	59	54	49	47				47
6	73	60	51	45	71	59	51	45	57	50	45	55	49	44	54	48	44	42				42
7	67	54	46	40	66	54	46	40	52	45	40	51	44	39	49	44	39	37				37
8	63	50	42	36	61	49	41	36	48	41	36	47	40	36	46	40	35	34				34
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30				30
10	55	43	35	30	54	42	35	30	41	34	30	40	34	29	39	34	29	28				28

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

	0°	45°	90°
0°	8501	8501	8501
5°	8533	8416	8465
10°	8485	8311	8282
15°	8394	8115	8030
20°	8268	7872	7689
25°	8140	7599	7356
30°	7970	7285	6886
35°	7794	6970	6456
40°	7631	6597	5923
45°	7421	6231	5441
50°	7187	5814	4901
55°	6948	5338	4400
60°	6730	4827	3847
65°	6445	4274	3295
70°	6089	3587	2662
75°	5568	2824	2506
80°	4963	2499	2304
85°	4186	2211	2058

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7421 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	65.9	4.2
10°-20°	183.4	11.6
20°-30°	264.1	16.7
30°-40°	297.4	18.8
40°-50°	284.5	18.0
50°-60°	232.9	14.7
60°-70°	157.0	9.9
70°-80°	78.7	5.0
80°-90°	20.6	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°	513.4	32.4
0°-40°	810.8	51.2
0°-60°	1328.1	83.8
0°-90°	1584.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1584.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	701	701	701	701	701	
5°	701	698	692	697	696	67
15°	669	663	647	644	640	188
25°	609	594	568	556	550	280
35°	527	506	471	446	436	330
45°	433	407	364	331	317	334
55°	329	301	253	220	208	295
65°	225	193	149	121	115	222
75°	119	92	60	55	54	127
85°	30	18	16	15	15	35
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	701.3	701.3	701.3	701.3	701.3
2.5°	704.2	701.9	695.1	701.3	700.2
5°	701.3	698.5	691.7	696.8	695.7
7.5°	696.2	693.4	684.8	688.3	686.6
10°	689.4	685.4	675.2	675.7	672.9
12.5°	679.7	675.2	662.1	661.5	658.1
15°	668.9	662.7	646.7	643.9	639.9
17.5°	655.8	649.0	629.1	623.4	617.7
20°	641.0	631.9	610.3	602.9	596.1
22.5°	624.6	613.7	590.4	580.8	574.5
25°	608.6	594.4	568.2	556.3	550.0
27.5°	589.3	573.9	545.5	529.6	519.9
30°	569.4	552.3	520.5	501.1	492.0
32.5°	549.5	529.6	495.4	473.8	464.1
35°	526.7	506.2	471.0	446.5	436.3
37.5°	504.0	481.8	444.8	417.5	405.0
40°	482.3	457.3	416.9	387.4	374.3
42.5°	457.9	432.9	390.8	357.8	346.4
45°	432.9	407.3	363.5	331.0	317.4
47.5°	408.4	380.0	336.7	301.5	289.5
50°	381.1	354.4	308.3	273.0	259.9
52.5°	356.6	327.1	281.6	244.6	233.2
55°	328.8	300.9	252.6	219.6	208.2
57.5°	303.7	273.6	224.7	193.4	183.7
60°	277.6	246.3	199.1	168.4	158.7
62.5°	251.4	220.1	172.9	144.5	134.2
65°	224.7	193.4	149.0	121.2	114.9
67.5°	197.9	166.1	122.9	101.8	95.0
70°	171.8	141.1	101.2	81.3	75.1
72.5°	145.6	115.5	80.2	64.8	63.1
75°	118.9	91.6	60.3	54.6	53.5
77.5°	94.4	69.4	47.2	43.8	42.7
80°	71.1	47.8	35.8	34.1	33.0
82.5°	48.9	29.6	25.6	23.9	23.9
85°	30.1	17.6	15.9	14.8	14.8
87.5°	13.7	7.4	7.4	6.8	6.3
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	18.88	20.44	19.25	20.75	21.07	16.26	17.81	16.62	18.12	18.44
	3H	20.66	22.06	21.04	22.39	22.75	17.37	18.76	17.74	19.09	19.45
	4H	21.32	22.63	21.72	22.98	23.36	17.76	19.07	18.16	19.42	19.80
	6H	21.80	23.02	22.21	23.38	23.77	18.08	19.29	18.49	19.66	20.05
	8H	21.95	23.11	22.38	23.50	23.90	18.19	19.35	18.62	19.74	20.14
	12H	22.06	23.16	22.49	23.54	23.97	18.27	19.37	18.70	19.75	20.18
4H	2H	19.14	20.46	19.54	20.80	21.18	16.97	18.28	17.37	18.63	19.01
	3H	21.11	22.20	21.52	22.60	23.00	18.24	19.34	18.65	19.73	20.14
	4H	21.88	22.86	22.31	23.27	23.71	18.72	19.71	19.16	20.12	20.56
	6H	22.47	23.33	22.93	23.77	24.23	19.14	20.00	19.60	20.44	20.90
	8H	22.66	23.46	23.13	23.91	24.37	19.29	20.09	19.75	20.53	21.00
	12H	22.81	23.53	23.29	24.00	24.47	19.40	20.12	19.88	20.59	21.06
8H	4H	21.93	22.73	22.39	23.18	23.64	19.05	19.85	19.51	20.29	20.76
	6H	22.59	23.25	23.09	23.74	24.22	19.56	20.22	20.05	20.71	21.19
	8H	22.83	23.42	23.34	23.93	24.42	19.76	20.36	20.28	20.87	21.35
	12H	23.03	23.55	23.54	24.04	24.61	19.93	20.46	20.44	20.95	21.51
12H	4H	21.92	22.64	22.40	23.11	23.59	19.09	19.81	19.57	20.28	20.75
	6H	22.58	23.18	23.09	23.68	24.17	19.62	20.21	20.13	20.72	21.21
	8H	22.85	23.38	23.36	23.87	24.43	19.88	20.40	20.38	20.89	21.46