

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: P1055648

Luminaire Tested: S123R3DR-S560D935-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055648
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-6)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DR-S560D935-X4F0-XX-UDD-F-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

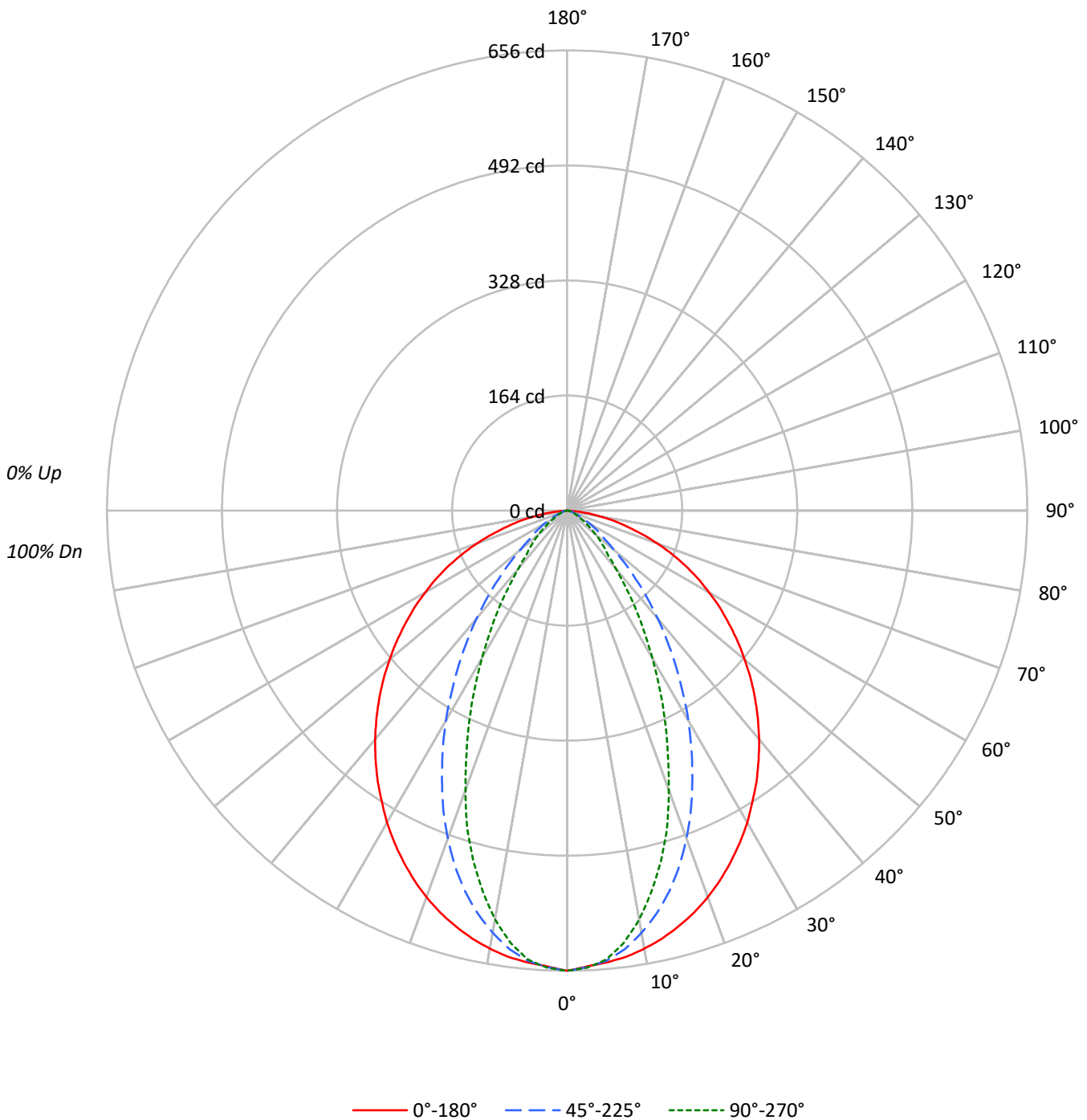
Lumens per Lamp: N/A
Luminaire Lumens: 912.2 lumens
Efficiency: N/A
Efficacy: 47.8 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 19.1
Input Voltage (V): 120
Input Current (A_{in}): 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	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	111	108	104	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89					89			
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79					79			
3	96	88	81	76	94	86	80	76	84	78	74	81	77	73	79	75	72	70					70			
4	90	80	73	67	88	79	72	67	76	71	66	74	69	65	72	68	64	62					62			
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56					56			
6	78	67	60	54	77	66	59	54	65	58	53	63	57	53	62	57	53	51					51			
7	73	62	54	49	72	61	54	49	60	53	49	58	53	48	57	52	48	46					46			
8	69	57	50	45	68	57	50	45	56	49	45	54	49	44	53	48	44	42					42			
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	45	41	39					39			
10	62	50	43	38	60	49	43	38	48	42	38	48	42	38	47	42	38	36					36			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7909	7909	7909
5°	7825	7795	7773
10°	7764	7483	7246
15°	7660	7016	6449
20°	7522	6382	5432
25°	7344	5616	4383
30°	7150	4813	3376
35°	6928	3971	2498
40°	6703	3160	1703
45°	6457	2365	1282
50°	6193	1645	1003
55°	5921	1202	731
60°	5638	899	526
65°	5303	602	408
70°	4801	437	328
75°	4141	317	261
80°	3326	257	215
85°	1715	263	166

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6457 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	60.6	6.6
10°-20°	157.8	17.3
20°-30°	198.3	21.7
30°-40°	184.7	20.2
40°-50°	141.4	15.5
50°-60°	94.0	10.3
60°-70°	50.7	5.6
70°-80°	20.7	2.3
80°-90°	4.0	0.4
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°	416.8	45.7
0°-40°	601.5	65.9
0°-60°	836.9	91.7
0°-90°	912.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	912.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	656	656	656	656	656	
5°	647	654	644	642	642	61
15°	614	604	562	529	517	173
25°	552	515	422	352	330	254
35°	471	401	270	191	170	294
45°	379	280	139	82	75	292
55°	282	163	57	40	35	252
65°	186	63	21	16	14	184
75°	89	15	7	6	6	95
85°	12	2	2	2	1	18
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	656.0	656.0	656.0	656.0	656.0
2.5°	650.4	658.4	651.6	652.2	652.2
5°	646.6	653.5	644.1	641.7	642.3
7.5°	641.7	646.0	630.5	622.4	621.1
10°	634.2	635.4	611.2	596.9	591.9
12.5°	624.9	620.5	588.8	565.2	555.9
15°	613.7	603.7	562.1	529.1	516.7
17.5°	601.2	584.5	531.6	488.7	473.8
20°	586.3	562.7	497.4	443.9	423.4
22.5°	570.2	539.7	461.3	397.9	374.9
25°	552.1	514.8	422.2	351.9	329.5
27.5°	533.5	488.1	383.6	308.4	285.4
30°	513.6	460.7	345.7	266.1	242.5
32.5°	491.8	430.9	306.5	226.9	203.3
35°	470.7	401.0	269.8	190.9	169.7
37.5°	448.3	371.2	234.4	159.2	135.5
40°	425.9	340.7	200.8	128.1	108.2
42.5°	402.3	310.3	169.1	102.0	86.4
45°	378.7	279.8	138.7	81.5	75.2
47.5°	355.0	249.3	111.9	70.3	64.0
50°	330.2	220.1	87.7	59.7	53.5
52.5°	306.5	190.9	68.4	49.1	43.5
55°	281.7	162.9	57.2	39.8	34.8
57.5°	258.7	134.3	47.3	31.1	27.4
60°	233.8	108.8	37.3	24.2	21.8
62.5°	210.2	85.2	28.6	19.3	17.4
65°	185.9	62.8	21.1	15.5	14.3
67.5°	161.7	45.4	16.2	12.4	11.8
70°	136.2	34.2	12.4	9.9	9.3
72.5°	111.9	24.2	9.3	8.1	7.5
75°	88.9	14.9	6.8	6.2	5.6
77.5°	68.4	8.7	5.0	5.0	4.4
80°	47.9	5.0	3.7	3.7	3.1
82.5°	29.2	3.1	2.5	2.5	2.5
85°	12.4	1.9	1.9	1.9	1.2
87.5°	1.9	0.6	0.6	0.6	0.6
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	17.00	18.35	17.36	18.67	18.98	5.57	6.93	5.94	7.24	7.56
	3H	18.75	19.96	19.13	20.29	20.65	6.23	7.44	6.61	7.77	8.13
	4H	19.45	20.58	19.85	20.93	21.31	6.43	7.55	6.83	7.90	8.29
	6H	19.96	21.00	20.38	21.37	21.76	6.55	7.59	6.97	7.96	8.35
	8H	20.10	21.08	20.53	21.47	21.88	6.59	7.57	7.02	7.96	8.36
	12H	20.16	21.09	20.59	21.47	21.90	6.60	7.53	7.03	7.92	8.35
4H	2H	16.81	17.93	17.21	18.28	18.66	6.13	7.25	6.53	7.60	7.98
	3H	18.60	19.52	19.01	19.92	20.33	6.92	7.84	7.33	8.25	8.65
	4H	19.29	20.12	19.73	20.54	20.98	7.18	8.00	7.62	8.42	8.87
	6H	19.86	20.57	20.33	21.02	21.49	7.38	8.09	7.84	8.54	9.00
	8H	20.04	20.70	20.51	21.15	21.62	7.43	8.10	7.90	8.54	9.01
	12H	20.12	20.71	20.61	21.19	21.67	7.47	8.05	7.95	8.53	9.01
8H	4H	19.17	19.83	19.64	20.28	20.75	7.49	8.16	7.96	8.60	9.07
	6H	19.72	20.27	20.23	20.76	21.24	7.74	8.28	8.24	8.78	9.26
	8H	19.90	20.39	20.42	20.90	21.39	7.83	8.32	8.35	8.83	9.32
	12H	20.00	20.43	20.52	20.93	21.50	7.91	8.34	8.43	8.83	9.40
12H	4H	19.13	19.71	19.61	20.20	20.67	7.54	8.13	8.02	8.61	9.08
	6H	19.67	20.15	20.19	20.67	21.16	7.79	8.27	8.31	8.79	9.28
	8H	19.86	20.29	20.38	20.78	21.35	7.92	8.34	8.43	8.84	9.41