

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: P1055790

Luminaire Tested: S123R3DR-H560D950-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055790
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-4)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DR-H560D950-X4F0-XX-UDD-F-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

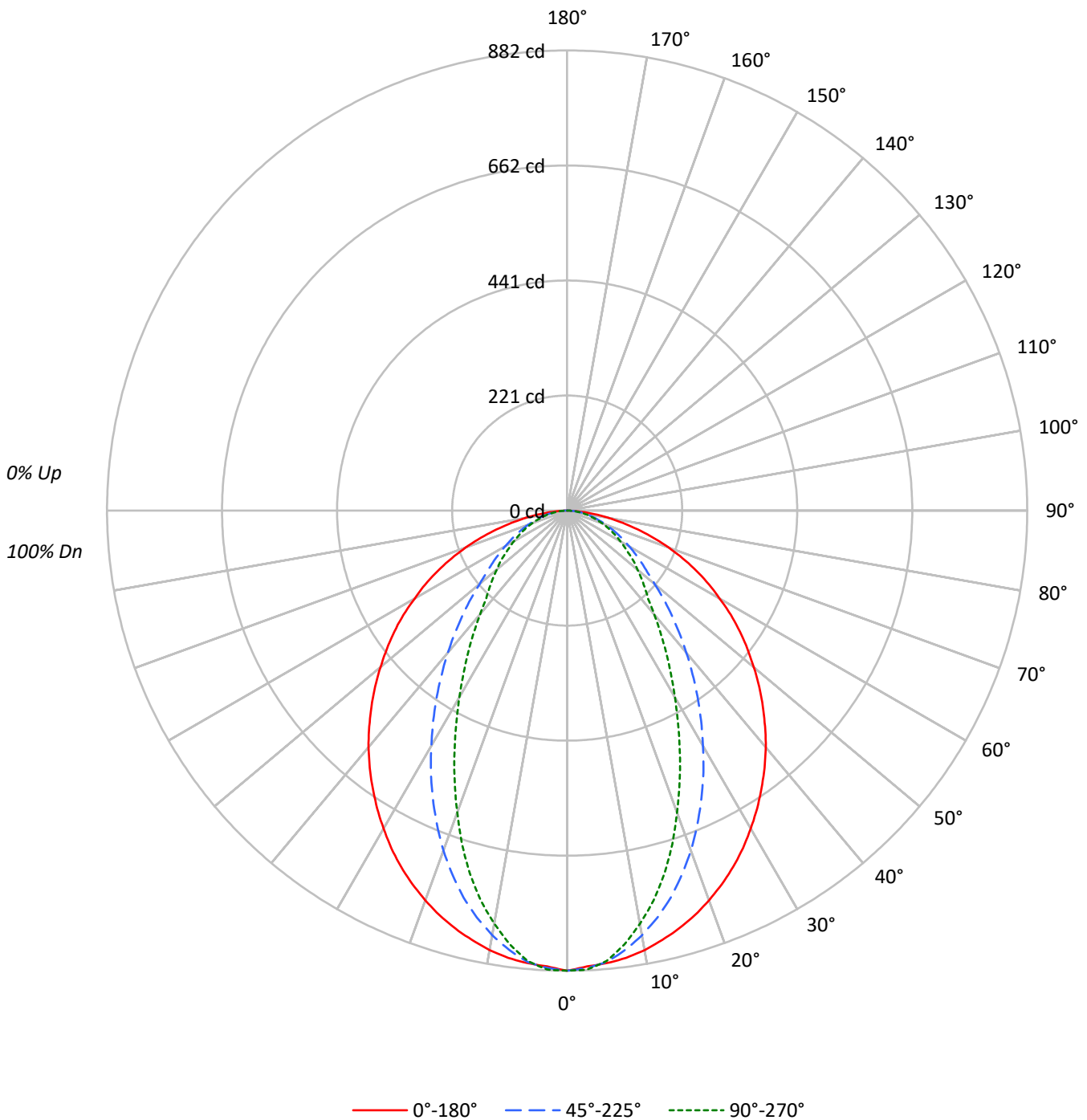
Lumens per Lamp: N/A
Luminaire Lumens: 1546.8 lumens
Efficiency: N/A
Efficacy: 89.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 17.3
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	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	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86																												
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76	74																												
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67	65																												
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59	57																												
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52	50																												
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45																												
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40																												
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39	37																												
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	34																												
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33	31																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10633	10633	10633
5°	10538	10515	10490
10°	10475	10118	9844
15°	10350	9583	8991
20°	10199	8895	7905
25°	10021	8100	6800
30°	9798	7246	5748
35°	9562	6408	4854
40°	9323	5595	4079
45°	9043	4825	3599
50°	8759	4108	3303
55°	8500	3660	3050
60°	8143	3308	2848
65°	7811	3030	2673
70°	7279	2792	2510
75°	6512	2581	2366
80°	5589	2381	2201
85°	3929	2186	2103

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9043 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.8	5.3
10°-20°	216.3	14.0
20°-30°	284.9	18.4
30°-40°	289.2	18.7
40°-50°	251.4	16.3
50°-60°	196.9	12.7
60°-70°	133.8	8.7
70°-80°	72.5	4.7
80°-90°	20.0	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°	583.0	37.7
0°-40°	872.2	56.4
0°-60°	1320.5	85.4
0°-90°	1546.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1546.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	882	882	882	882	882	
5°	871	881	869	861	867	83
15°	829	817	768	730	720	234
25°	753	708	609	533	511	347
35°	650	573	435	352	330	406
45°	530	426	283	218	211	409
55°	404	281	174	148	145	361
65°	274	152	106	95	94	270
75°	140	70	55	52	51	149
85°	28	17	16	14	15	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	881.9	881.9	881.9	881.9	881.9
2.5°	874.7	885.9	877.3	878.0	880.6
5°	870.7	881.3	868.8	860.8	866.8
7.5°	864.8	872.7	849.6	837.1	839.1
10°	855.6	858.2	826.5	806.7	804.1
12.5°	843.0	838.4	798.8	769.8	765.2
15°	829.2	817.3	767.8	730.2	720.3
17.5°	813.3	793.6	731.5	685.4	670.2
20°	794.9	767.2	693.3	634.6	616.1
22.5°	775.1	739.5	651.7	582.5	563.3
25°	753.3	707.8	608.9	533.0	511.2
27.5°	729.6	676.1	565.3	484.2	459.8
30°	703.8	643.2	520.5	436.7	412.9
32.5°	677.5	608.2	477.6	392.5	369.4
35°	649.7	572.6	435.4	352.2	329.8
37.5°	621.4	536.3	394.5	314.0	292.9
40°	592.4	499.4	355.5	278.4	259.2
42.5°	561.4	462.4	317.9	244.7	230.2
45°	530.4	425.5	283.0	218.3	211.1
47.5°	499.4	387.9	250.0	199.9	193.3
50°	467.0	351.6	219.0	182.7	176.1
52.5°	435.4	316.0	193.3	166.2	161.6
55°	404.4	281.0	174.1	148.4	145.1
57.5°	372.0	246.7	155.0	134.6	130.6
60°	337.7	213.7	137.2	120.1	118.1
62.5°	306.7	182.7	121.4	107.5	105.5
65°	273.8	151.7	106.2	95.0	93.7
67.5°	240.1	126.0	92.4	83.1	82.5
70°	206.5	106.2	79.2	71.9	71.2
72.5°	173.5	87.7	66.6	62.0	60.7
75°	139.8	69.9	55.4	51.5	50.8
77.5°	109.5	54.1	44.2	41.6	40.9
80°	80.5	40.2	34.3	32.3	31.7
82.5°	52.8	27.7	24.4	23.1	23.1
85°	28.4	17.2	15.8	14.5	15.2
87.5°	9.9	7.3	7.3	6.6	7.3
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	18.77	20.26	19.14	20.58	20.89	13.92	15.41	14.29	15.73	16.04
	3H	20.66	22.00	21.04	22.32	22.69	15.55	16.89	15.93	17.22	17.58
	4H	21.41	22.67	21.81	23.02	23.40	16.19	17.44	16.59	17.79	18.17
	6H	21.98	23.14	22.39	23.51	23.90	16.68	17.84	17.09	18.20	18.60
	8H	22.15	23.26	22.58	23.65	24.05	16.85	17.95	17.27	18.34	18.74
	12H	22.25	23.31	22.68	23.69	24.12	16.97	18.03	17.40	18.41	18.84
4H	2H	18.82	20.07	19.22	20.42	20.80	14.65	15.91	15.05	16.25	16.63
	3H	20.83	21.88	21.25	22.28	22.68	16.47	17.51	16.88	17.91	18.32
	4H	21.65	22.59	22.08	23.01	23.45	17.22	18.16	17.65	18.57	19.01
	6H	22.33	23.15	22.79	23.59	24.06	17.83	18.64	18.28	19.09	19.55
	8H	22.56	23.33	23.03	23.77	24.24	18.04	18.81	18.51	19.25	19.72
	12H	22.72	23.40	23.20	23.88	24.35	18.21	18.89	18.69	19.37	19.84
8H	4H	21.68	22.44	22.14	22.88	23.35	17.60	18.36	18.06	18.81	19.28
	6H	22.40	23.04	22.90	23.53	24.01	18.33	18.96	18.83	19.45	19.93
	8H	22.67	23.24	23.19	23.75	24.24	18.62	19.18	19.13	19.69	20.18
	12H	22.88	23.38	23.39	23.88	24.44	18.86	19.36	19.37	19.85	20.42
12H	4H	21.66	22.34	22.14	22.82	23.29	17.65	18.34	18.14	18.82	19.29
	6H	22.39	22.96	22.90	23.47	23.95	18.41	18.98	18.93	19.49	19.98
	8H	22.69	23.19	23.20	23.69	24.25	18.76	19.26	19.27	19.75	20.32