

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: P1055636

Luminaire Tested: S123R3DR-S560D840-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055636
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-S560D840-X4F0-XX-UDD-F-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

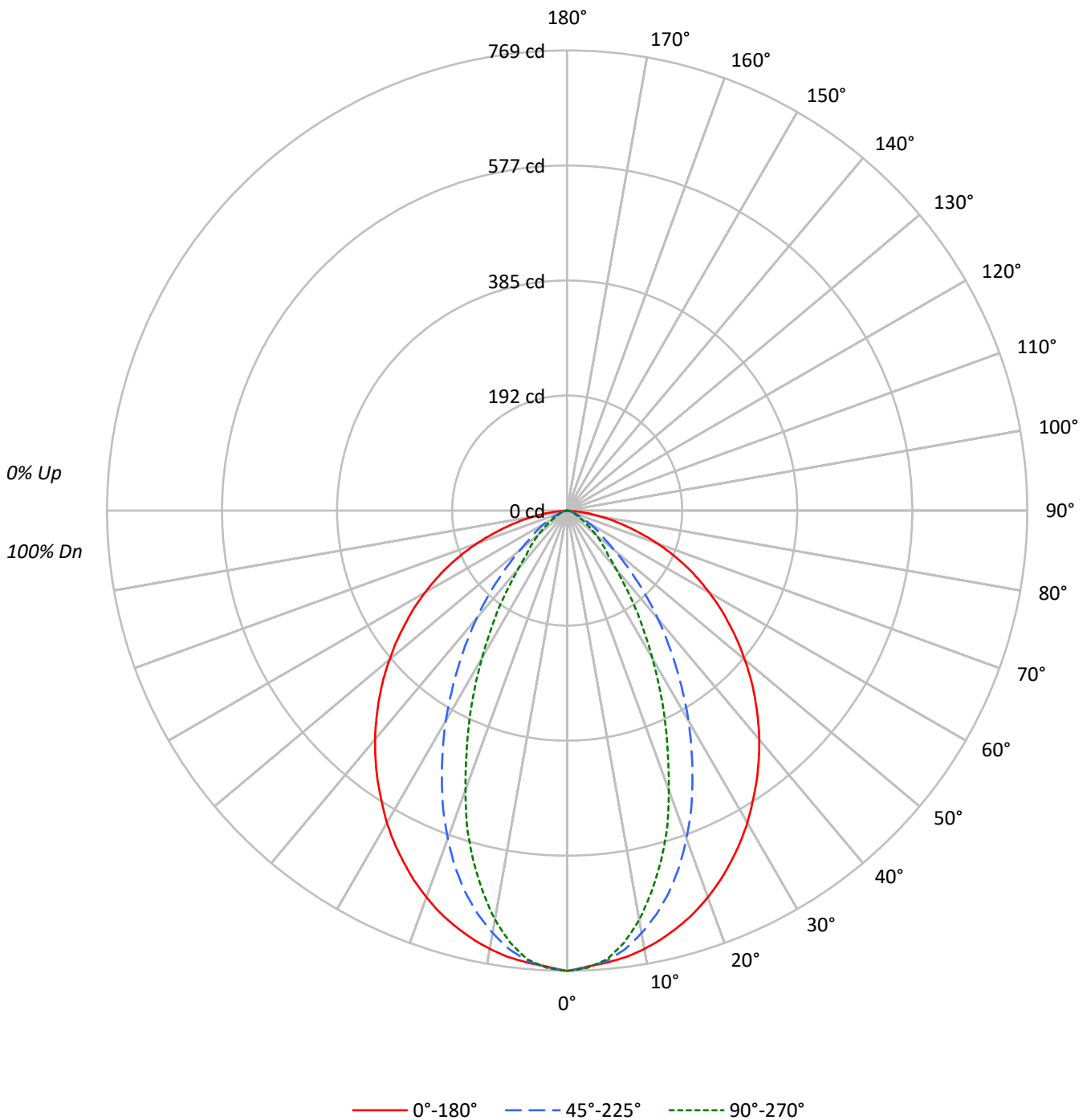
Lumens per Lamp: N/A
Luminaire Lumens: 1069.9 lumens
Efficiency: N/A
Efficacy: 56.0 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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°	9276	9276	9276
5°	9179	9143	9117
10°	9107	8777	8500
15°	8984	8229	7564
20°	8823	7485	6371
25°	8615	6588	5142
30°	8386	5645	3959
35°	8126	4658	2930
40°	7861	3708	1997
45°	7572	2772	1504
50°	7262	1928	1176
55°	6945	1410	858
60°	6612	1056	615
65°	6222	707	479
70°	5630	515	384
75°	4859	373	307
80°	3902	305	250
85°	2020	304	207

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7572 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	71.1	6.6
10°-20°	185.1	17.3
20°-30°	232.6	21.7
30°-40°	216.6	20.2
40°-50°	165.8	15.5
50°-60°	110.2	10.3
60°-70°	59.4	5.6
70°-80°	24.3	2.3
80°-90°	4.7	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°	488.8	45.7
0°-40°	705.5	65.9
0°-60°	981.5	91.7
0°-90°	1069.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1069.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	769	769	769	769	769	
5°	758	766	756	753	753	72
15°	720	708	659	621	606	203
25°	648	604	495	413	386	298
35°	552	470	316	224	199	345
45°	444	328	163	96	88	343
55°	330	191	67	47	41	296
65°	218	74	25	18	17	215
75°	104	18	8	7	7	112
85°	15	2	2	2	2	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	769.4	769.4	769.4	769.4	769.4
2.5°	762.8	772.3	764.3	765.0	765.0
5°	758.4	766.5	755.5	752.6	753.3
7.5°	752.6	757.7	739.5	730.0	728.5
10°	743.9	745.3	716.9	700.1	694.3
12.5°	732.9	727.8	690.6	662.9	652.0
15°	719.8	708.1	659.3	620.6	606.0
17.5°	705.2	685.5	623.5	573.2	555.7
20°	687.7	660.0	583.4	520.7	496.6
22.5°	668.7	633.0	541.1	466.7	439.7
25°	647.6	603.8	495.2	412.8	386.5
27.5°	625.7	572.5	450.0	361.7	334.7
30°	602.4	540.4	405.5	312.1	284.4
32.5°	576.8	505.4	359.5	266.2	238.5
35°	552.1	470.4	316.5	223.9	199.1
37.5°	525.8	435.4	274.9	186.7	159.0
40°	499.5	399.6	235.6	150.2	126.9
42.5°	471.8	363.9	198.4	119.6	101.4
45°	444.1	328.2	162.6	95.5	88.2
47.5°	416.4	292.4	131.3	82.4	75.1
50°	387.2	258.2	102.8	70.0	62.7
52.5°	359.5	223.9	80.2	57.6	51.0
55°	330.4	191.1	67.1	46.7	40.8
57.5°	303.4	157.5	55.4	36.5	32.1
60°	274.2	127.6	43.8	28.4	25.5
62.5°	246.5	99.9	33.5	22.6	20.4
65°	218.1	73.7	24.8	18.2	16.8
67.5°	189.6	53.2	19.0	14.6	13.9
70°	159.7	40.1	14.6	11.7	10.9
72.5°	131.3	28.4	10.9	9.5	8.8
75°	104.3	17.5	8.0	7.3	6.6
77.5°	80.2	10.2	5.8	5.8	5.1
80°	56.2	5.8	4.4	4.4	3.6
82.5°	34.3	3.6	2.9	2.9	2.9
85°	14.6	2.2	2.2	2.2	1.5
87.5°	2.2	0.7	0.7	0.7	0.7
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	17.55	18.91	17.92	19.22	19.54	6.13	7.49	6.50	7.80	8.12
	3H	19.30	20.51	19.68	20.84	21.20	6.79	8.00	7.17	8.33	8.69
	4H	20.00	21.13	20.41	21.48	21.86	6.99	8.12	7.39	8.47	8.85
	6H	20.52	21.55	20.93	21.92	22.31	7.11	8.15	7.53	8.51	8.91
	8H	20.66	21.64	21.09	22.03	22.43	7.15	8.12	7.57	8.52	8.92
	12H	20.71	21.65	21.14	22.03	22.46	7.16	8.09	7.59	8.48	8.91
4H	2H	17.36	18.48	17.76	18.83	19.22	6.69	7.81	7.09	8.16	8.54
	3H	19.15	20.07	19.56	20.48	20.88	7.49	8.41	7.90	8.81	9.21
	4H	19.85	20.67	20.28	21.09	21.53	7.74	8.57	8.18	8.99	9.43
	6H	20.42	21.13	20.88	21.57	22.04	7.94	8.65	8.40	9.10	9.56
	8H	20.59	21.26	21.06	21.70	22.17	7.99	8.66	8.46	9.10	9.57
	12H	20.68	21.26	21.16	21.75	22.22	8.03	8.61	8.51	9.09	9.57
8H	4H	19.72	20.39	20.19	20.83	21.30	8.06	8.72	8.52	9.17	9.64
	6H	20.28	20.82	20.78	21.31	21.80	8.30	8.84	8.80	9.34	9.82
	8H	20.45	20.94	20.97	21.45	21.95	8.39	8.87	8.91	9.39	9.88
	12H	20.56	20.99	21.07	21.48	22.05	8.47	8.90	8.99	9.39	9.96
12H	4H	19.68	20.27	20.17	20.75	21.22	8.10	8.69	8.59	9.17	9.64
	6H	20.22	20.71	20.74	21.22	21.71	8.35	8.83	8.87	9.35	9.84
	8H	20.41	20.84	20.93	21.34	21.91	8.47	8.90	8.99	9.40	9.97