

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1055312

Luminaire Tested: S122R3DR-H290D840-X4F0-XX-UDD-FLL-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1055312
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-3)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122R3DR-H290D840-X4F0-XX-UDD-FLL-S
Description: DEFINE 2, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

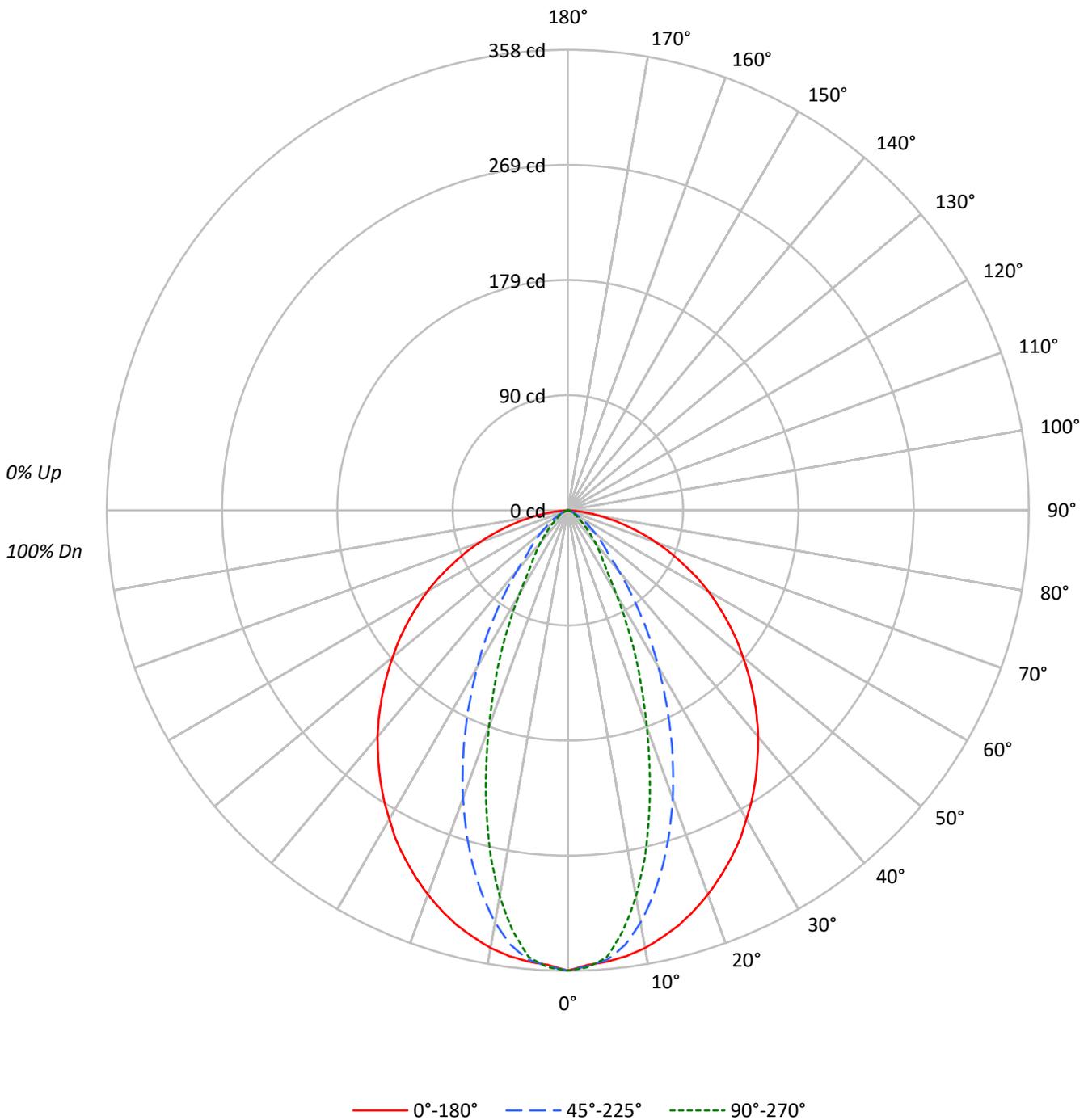
Lumens per Lamp: N/A
Luminaire Lumens: 410.0 lumens
Efficiency: N/A
Efficacy: 35.0 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 0.64 / 0.81
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
Input Voltage (V): 120
Input Current (Ain): 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	112	108	105	102	109	106	103	100	102	99	97	98	96	94	94	93	92	90					90			
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80					80			
3	97	89	83	78	95	88	82	77	85	80	76	82	78	74	80	76	73	71					71			
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64					64			
5	85	75	67	62	83	74	67	62	72	66	61	70	65	61	68	64	60	58					58			
6	80	69	62	56	78	68	61	56	66	60	56	65	59	55	63	59	55	53					53			
7	75	64	57	52	74	63	56	51	62	56	51	60	55	51	59	54	50	49					49			
8	71	59	52	47	69	59	52	47	58	51	47	56	51	47	55	50	47	45					45			
9	67	56	49	44	66	55	48	44	54	48	44	53	47	43	52	47	43	42					42			
10	63	52	45	41	62	52	45	41	51	45	41	50	44	40	49	44	40	39					39			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6779	6779	6779
5°	6696	6672	6630
10°	6647	6258	5862
15°	6545	5598	4782
20°	6409	4801	3607
25°	6250	3932	2575
30°	6062	3069	1641
35°	5882	2250	1096
40°	5683	1519	824
45°	5463	1069	587
50°	5235	813	413
55°	5011	565	304
60°	4767	383	250
65°	4425	273	197
70°	4033	216	172
75°	3499	190	132
80°	2771	142	142
85°	1522	196	87

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5463 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.7	8.0
10°-20°	80.3	19.6
20°-30°	91.7	22.4
30°-40°	77.8	19.0
40°-50°	58.0	14.2
50°-60°	37.5	9.1
60°-70°	20.9	5.1
70°-80°	9.2	2.2
80°-90°	1.9	0.5
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°	204.7	49.9
0°-40°	282.5	68.9
0°-60°	378.0	92.2
0°-90°	410.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	410.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	358	358	358	358	358	
5°	352	356	351	347	349	33
15°	334	325	285	255	244	94
25°	299	264	188	138	123	138
35°	254	192	97	53	47	159
45°	204	121	40	26	22	157
55°	152	57	17	10	9	136
65°	99	21	6	5	4	98
75°	48	4	3	2	2	51
85°	7	0	1	0	0	10
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	357.8	357.8	357.8	357.8	357.8
2.5°	353.8	359.1	354.7	354.7	355.6
5°	352.1	356.5	350.8	347.3	348.6
7.5°	349.5	352.5	340.7	330.2	329.3
10°	345.5	346.8	325.3	309.1	304.7
12.5°	339.8	336.7	306.5	283.7	276.2
15°	333.7	325.3	285.4	255.2	243.8
17.5°	326.2	311.3	262.2	225.4	211.3
20°	317.9	296.8	238.1	194.2	178.9
22.5°	308.7	280.6	213.1	164.9	149.5
25°	299.0	264.0	188.1	137.7	123.2
27.5°	289.0	246.4	163.6	113.1	97.3
30°	277.1	228.4	140.3	89.4	75.0
32.5°	266.2	209.6	118.8	69.3	57.0
35°	254.3	191.6	97.3	53.1	47.4
37.5°	242.0	173.6	78.5	44.7	39.9
40°	229.8	155.7	61.4	37.7	33.3
42.5°	217.0	138.1	47.4	31.6	27.2
45°	203.9	121.0	39.9	25.9	21.9
47.5°	190.7	103.9	33.3	20.6	17.5
50°	177.6	87.7	27.6	16.2	14.0
52.5°	164.9	72.3	21.9	13.2	11.4
55°	151.7	57.4	17.1	10.5	9.2
57.5°	138.6	44.7	13.2	8.8	7.9
60°	125.8	33.8	10.1	7.0	6.6
62.5°	112.7	27.2	7.9	5.7	5.3
65°	98.7	21.0	6.1	4.8	4.4
67.5°	85.9	15.3	4.8	3.9	3.5
70°	72.8	10.5	3.9	3.5	3.1
72.5°	60.1	6.6	3.1	2.6	2.6
75°	47.8	4.4	2.6	2.2	1.8
77.5°	36.4	2.6	1.8	1.8	1.3
80°	25.4	1.8	1.3	1.3	1.3
82.5°	15.8	1.3	0.9	0.9	0.9
85°	7.0	0.4	0.9	0.4	0.4
87.5°	1.3	0.4	0.4	0.4	0.4
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	14.90	16.22	15.27	16.53	16.85	1.23	2.55	1.60	2.86	3.18
	3H	17.37	18.54	17.75	18.87	19.23	2.07	3.24	2.45	3.57	3.94
	4H	18.33	19.42	18.73	19.77	20.15	2.35	3.44	2.75	3.79	4.17
	6H	19.01	20.02	19.43	20.39	20.78	2.54	3.54	2.95	3.91	4.30
	8H	19.21	20.16	19.64	20.55	20.95	2.61	3.56	3.04	3.95	4.36
	12H	19.29	20.20	19.72	20.58	21.01	2.63	3.54	3.07	3.93	4.36
4H	2H	14.68	15.78	15.09	16.13	16.51	1.79	2.88	2.19	3.23	3.62
	3H	17.17	18.06	17.58	18.47	18.87	2.81	3.71	3.23	4.11	4.52
	4H	18.11	18.91	18.55	19.33	19.77	3.19	3.99	3.62	4.41	4.85
	6H	18.87	19.56	19.33	20.00	20.47	3.48	4.17	3.94	4.61	5.08
	8H	19.11	19.75	19.58	20.20	20.67	3.58	4.22	4.05	4.67	5.14
	12H	19.24	19.81	19.73	20.29	20.76	3.62	4.19	4.11	4.67	5.15
8H	4H	17.98	18.62	18.45	19.07	19.54	3.56	4.20	4.03	4.65	5.12
	6H	18.72	19.24	19.22	19.74	20.22	3.92	4.44	4.42	4.94	5.42
	8H	18.96	19.43	19.49	19.95	20.44	4.06	4.53	4.59	5.05	5.54
	12H	19.11	19.53	19.63	20.02	20.59	4.14	4.55	4.65	5.05	5.62
12H	4H	17.93	18.50	18.42	18.99	19.46	3.68	4.25	4.17	4.73	5.21
	6H	18.66	19.13	19.18	19.64	20.14	4.04	4.51	4.56	5.02	5.52
	8H	18.92	19.34	19.44	19.83	20.40	4.22	4.64	4.74	5.13	5.70