

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: P1055762

Luminaire Tested: S123R3DR-H340D950-X4F0-XX-UDD-FLL-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1055762
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-H340D950-X4F0-XX-UDD-FLL-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

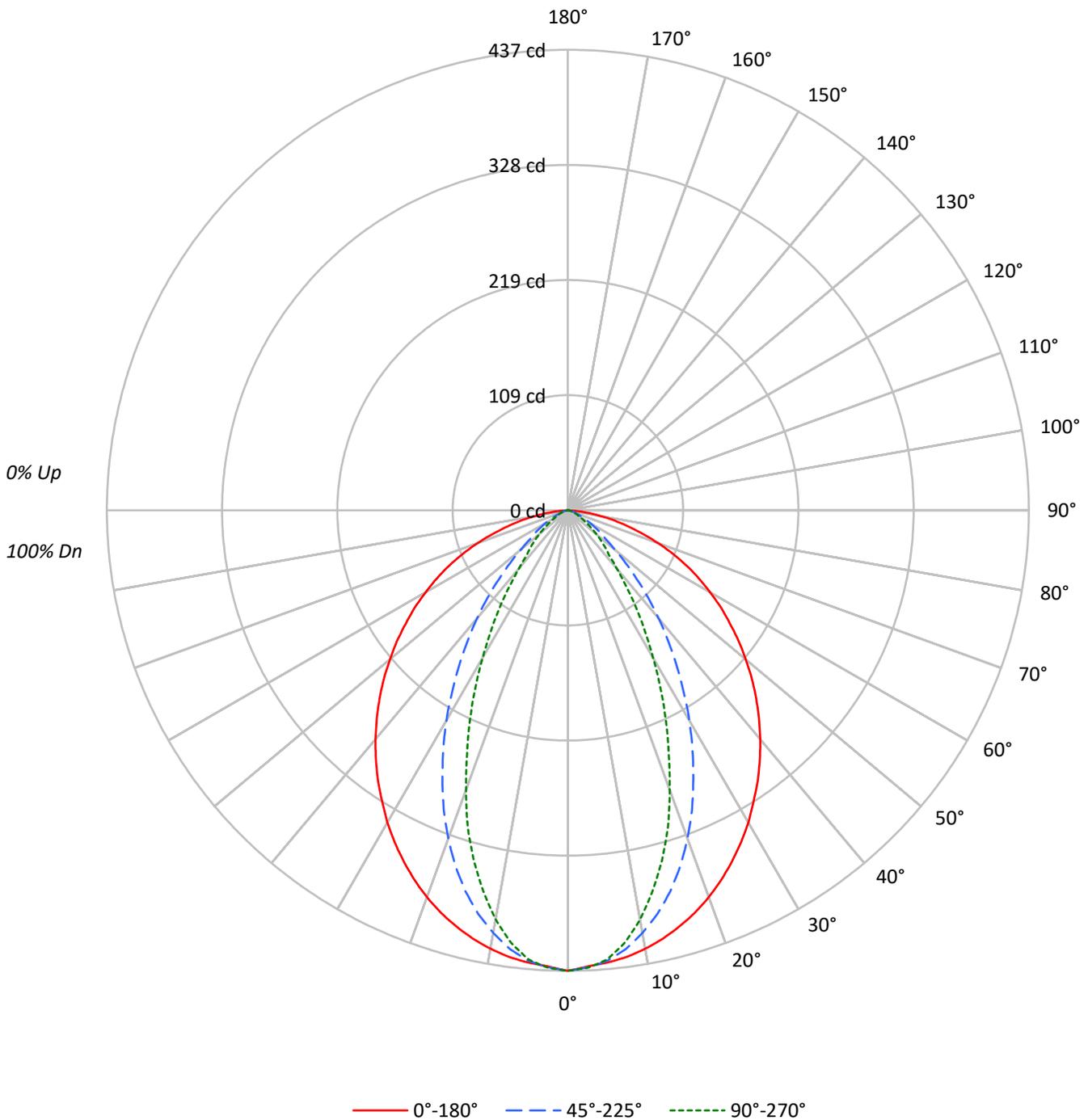
Lumens per Lamp: N/A
Luminaire Lumens: 607.7 lumens
Efficiency: N/A
Efficacy: 51.9 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	111	108	104	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79
3	96	88	81	76	94	86	80	76	84	78	74	81	77	73	79	75	72	70
4	90	80	73	67	88	79	72	67	76	71	66	74	69	65	72	68	64	62
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56
6	78	67	60	54	77	66	59	54	65	58	53	63	57	53	62	57	53	51
7	73	62	54	49	72	61	54	49	60	53	49	58	53	48	57	52	48	46
8	69	57	50	45	68	57	50	45	56	49	45	54	49	44	53	48	44	42
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	45	41	39
10	62	50	43	38	60	49	43	38	48	42	38	48	42	38	47	42	38	36

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5269	5269	5269
5°	5214	5193	5179
10°	5172	4985	4827
15°	5103	4674	4296
20°	5011	4252	3619
25°	4893	3742	2920
30°	4763	3206	2248
35°	4616	2646	1665
40°	4465	2106	1135
45°	4302	1575	854
50°	4125	1095	668
55°	3943	801	488
60°	3754	600	350
65°	3535	402	271
70°	3197	293	219
75°	2758	214	172
80°	2215	174	146
85°	1148	166	111

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4302 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.4	6.6
10°-20°	105.2	17.3
20°-30°	132.1	21.7
30°-40°	123.1	20.2
40°-50°	94.2	15.5
50°-60°	62.6	10.3
60°-70°	33.8	5.6
70°-80°	13.8	2.3
80°-90°	2.6	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°	277.7	45.7
0°-40°	400.7	65.9
0°-60°	557.5	91.7
0°-90°	607.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	607.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	437	437	437	437	437	
5°	431	435	429	428	428	41
15°	409	402	374	352	344	115
25°	368	343	281	234	220	169
35°	314	267	180	127	113	196
45°	252	186	92	54	50	195
55°	188	108	38	26	23	168
65°	124	42	14	10	10	122
75°	59	10	5	4	4	63
85°	8	1	1	1	1	12
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	437.0	437.0	437.0	437.0	437.0
2.5°	433.3	438.7	434.1	434.5	434.5
5°	430.8	435.3	429.1	427.5	427.9
7.5°	427.5	430.4	420.0	414.6	413.8
10°	422.5	423.3	407.2	397.6	394.3
12.5°	416.3	413.4	392.3	376.5	370.3
15°	408.8	402.2	374.5	352.5	344.2
17.5°	400.5	389.4	354.2	325.6	315.6
20°	390.6	374.9	331.4	295.8	282.1
22.5°	379.8	359.5	307.4	265.1	249.8
25°	367.8	343.0	281.3	234.4	219.5
27.5°	355.4	325.2	255.6	205.5	190.1
30°	342.1	306.9	230.3	177.3	161.5
32.5°	327.6	287.1	204.2	151.2	135.4
35°	313.6	267.2	179.8	127.2	113.1
37.5°	298.7	247.3	156.2	106.0	90.3
40°	283.7	227.0	133.8	85.3	72.1
42.5°	268.0	206.7	112.7	67.9	57.6
45°	252.3	186.4	92.4	54.3	50.1
47.5°	236.5	166.1	74.6	46.8	42.7
50°	219.9	146.6	58.4	39.8	35.6
52.5°	204.2	127.2	45.6	32.7	29.0
55°	187.6	108.5	38.1	26.5	23.2
57.5°	172.3	89.5	31.5	20.7	18.2
60°	155.7	72.5	24.9	16.2	14.5
62.5°	140.0	56.7	19.1	12.8	11.6
65°	123.9	41.8	14.1	10.4	9.5
67.5°	107.7	30.2	10.8	8.3	7.9
70°	90.7	22.8	8.3	6.6	6.2
72.5°	74.6	16.2	6.2	5.4	5.0
75°	59.2	9.9	4.6	4.1	3.7
77.5°	45.6	5.8	3.3	3.3	2.9
80°	31.9	3.3	2.5	2.5	2.1
82.5°	19.5	2.1	1.7	1.7	1.7
85°	8.3	1.2	1.2	1.2	0.8
87.5°	1.2	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	15.59	16.94	15.95	17.26	17.57	4.16	5.51	4.52	5.83	6.14
	3H	17.34	18.55	17.72	18.87	19.24	4.82	6.03	5.20	6.36	6.72
	4H	18.04	19.16	18.44	19.51	19.90	5.02	6.14	5.42	6.49	6.87
	6H	18.55	19.59	18.97	19.96	20.35	5.14	6.17	5.55	6.54	6.94
	8H	18.69	19.67	19.12	20.06	20.47	5.18	6.16	5.61	6.55	6.95
	12H	18.74	19.68	19.18	20.06	20.49	5.19	6.12	5.62	6.51	6.94
4H	2H	15.40	16.52	15.80	16.87	17.25	4.72	5.84	5.12	6.19	6.57
	3H	17.19	18.11	17.60	18.51	18.91	5.51	6.44	5.93	6.84	7.24
	4H	17.88	18.70	18.32	19.12	19.57	5.77	6.59	6.20	7.01	7.45
	6H	18.45	19.16	18.91	19.61	20.07	5.97	6.68	6.43	7.12	7.59
	8H	18.63	19.29	19.10	19.74	20.21	6.03	6.69	6.49	7.14	7.61
	12H	18.71	19.30	19.20	19.78	20.26	6.06	6.64	6.54	7.13	7.60
8H	4H	17.76	18.42	18.23	18.87	19.34	6.08	6.75	6.55	7.19	7.66
	6H	18.31	18.85	18.81	19.35	19.83	6.33	6.88	6.84	7.37	7.85
	8H	18.49	18.98	19.01	19.49	19.98	6.43	6.91	6.95	7.43	7.92
	12H	18.59	19.02	19.11	19.52	20.09	6.51	6.93	7.02	7.43	8.00
12H	4H	17.72	18.30	18.20	18.78	19.26	6.13	6.72	6.61	7.20	7.67
	6H	18.25	18.74	18.78	19.26	19.75	6.38	6.87	6.90	7.38	7.87
	8H	18.45	18.88	18.96	19.37	19.94	6.51	6.94	7.03	7.44	8.01