

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: P1055767

Luminaire Tested: S123R3DR-H560D835-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055767
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DR-H560D835-X4F0-XX-UDD-F-B
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

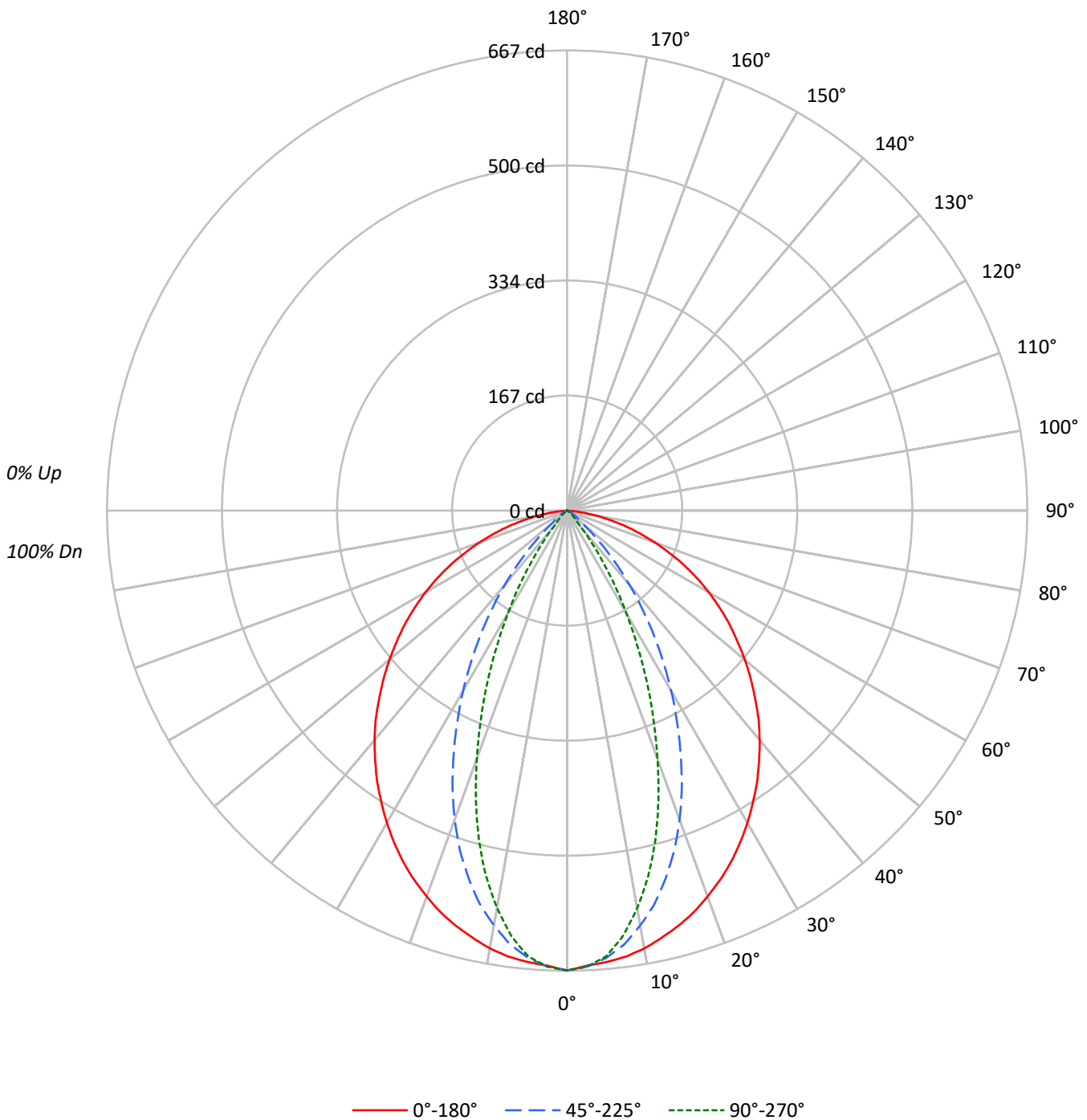
Lumens per Lamp: N/A
Luminaire Lumens: 780.2 lumens
Efficiency: N/A
Efficacy: 45.1 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	112	108	105	103	109	106	104	101	102	100	98	98	97	95	95	93	92	90
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83	81
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61	59
6	81	70	63	57	79	69	62	57	67	61	57	66	61	56	64	60	56	54
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	52	50
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48	46
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44	43
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8037	8037	8037
5°	7950	7875	7850
10°	7889	7474	7162
15°	7776	6887	6171
20°	7638	6112	4915
25°	7477	5179	3624
30°	7277	4197	2378
35°	7063	3195	1303
40°	6834	2210	445
45°	6566	1286	259
50°	6302	506	156
55°	6033	319	74
60°	5720	200	34
65°	5326	100	20
70°	4776	49	25
75°	4057	33	33
80°	3027	49	0
85°	1148	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6566 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.1	7.8
10°-20°	155.1	19.9
20°-30°	185.0	23.7
30°-40°	156.9	20.1
40°-50°	106.7	13.7
50°-60°	66.1	8.5
60°-70°	33.5	4.3
70°-80°	13.7	1.8
80°-90°	2.1	0.3
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°	401.2	51.4
0°-40°	558.1	71.5
0°-60°	730.9	93.7
0°-90°	780.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	780.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	667	667	667	667	667	
5°	657	663	651	646	649	62
15°	623	607	552	508	494	176
25°	562	510	389	301	272	259
35°	480	385	217	117	88	300
45°	385	252	75	19	15	297
55°	287	127	15	6	4	256
65°	187	31	4	1	1	184
75°	87	6	1	1	1	93
85°	8	0	0	1	0	15
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	666.6	666.6	666.6	666.6	666.6
2.5°	660.3	669.3	661.7	661.0	661.7
5°	656.9	663.1	650.7	645.8	648.6
7.5°	652.0	654.8	634.1	621.6	621.6
10°	644.4	642.4	610.5	589.8	585.0
12.5°	634.1	625.8	584.3	551.8	542.8
15°	623.0	607.1	551.8	508.2	494.4
17.5°	610.5	586.3	516.5	459.8	439.8
20°	595.3	562.8	476.4	407.3	383.1
22.5°	579.4	537.3	434.2	353.3	326.4
25°	562.1	509.6	389.3	300.8	272.4
27.5°	542.8	480.6	345.0	250.3	219.2
30°	522.7	450.1	301.5	201.9	170.8
32.5°	501.3	418.3	257.9	157.7	128.6
35°	479.9	385.1	217.1	116.9	88.5
37.5°	457.0	351.9	177.7	80.9	56.0
40°	434.2	319.4	140.4	51.2	28.3
42.5°	410.7	285.6	106.5	25.6	19.4
45°	385.1	252.4	75.4	18.7	15.2
47.5°	360.9	220.6	49.8	15.2	11.8
50°	336.0	188.8	27.0	11.1	8.3
52.5°	311.2	158.3	19.4	8.3	5.5
55°	287.0	127.2	15.2	5.5	3.5
57.5°	262.1	100.3	11.8	3.5	2.1
60°	237.2	74.0	8.3	2.1	1.4
62.5°	212.3	51.2	5.5	1.4	0.7
65°	186.7	31.1	3.5	0.7	0.7
67.5°	160.4	21.4	2.1	0.7	0.7
70°	135.5	15.2	1.4	0.7	0.7
72.5°	110.6	9.7	0.7	0.7	0.0
75°	87.1	5.5	0.7	0.7	0.7
77.5°	64.3	2.1	0.7	0.7	0.0
80°	43.6	0.7	0.7	0.7	0.0
82.5°	24.2	0.0	0.7	0.7	0.0
85°	8.3	0.0	0.0	0.7	0.0
87.5°	0.0	0.0	0.0	0.7	0.0
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	16.29	17.57	16.65	17.88	18.20	0.00	0.00	0.00	0.00	0.00
	3H	18.23	19.37	18.61	19.70	20.06	0.00	0.00	0.00	0.00	0.00
	4H	19.06	20.12	19.46	20.47	20.85	0.00	0.00	0.00	0.00	0.00
	6H	19.61	20.58	20.03	20.95	21.35	0.00	0.00	0.00	0.00	0.00
	8H	19.74	20.66	20.17	21.05	21.45	0.00	0.00	0.00	0.00	0.00
	12H	19.76	20.64	20.20	21.02	21.45	0.00	0.00	0.00	0.00	0.00
4H	2H	16.05	17.11	16.46	17.46	17.84	0.00	0.00	0.00	0.00	0.00
	3H	18.00	18.87	18.42	19.27	19.68	0.00	0.00	0.00	0.00	0.00
	4H	18.82	19.59	19.25	20.01	20.45	0.00	0.00	0.00	0.00	0.00
	6H	19.42	20.08	19.88	20.53	21.00	0.00	0.00	0.00	0.00	0.00
	8H	19.57	20.19	20.04	20.64	21.11	0.00	0.00	0.00	0.00	0.00
	12H	19.62	20.16	20.11	20.65	21.12	0.00	0.00	0.00	0.00	0.00
8H	4H	18.68	19.29	19.15	19.74	20.21	0.00	0.00	0.00	0.00	0.00
	6H	19.26	19.76	19.76	20.26	20.74	0.00	0.00	0.00	0.00	0.00
	8H	19.41	19.86	19.93	20.37	20.87	0.00	0.00	0.00	0.00	0.00
	12H	19.47	19.86	19.98	20.36	20.93	0.00	0.00	0.00	0.00	0.00
12H	4H	18.63	19.17	19.11	19.65	20.13	0.00	0.00	0.00	0.00	0.00
	6H	19.19	19.64	19.72	20.16	20.65	0.00	0.00	0.00	0.00	0.00
	8H	19.36	19.76	19.88	20.25	20.83	0.00	0.00	0.00	0.00	0.00