

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: P1055769

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

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055769  
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-H560D835-X4F0-XX-UDD-F-W  
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

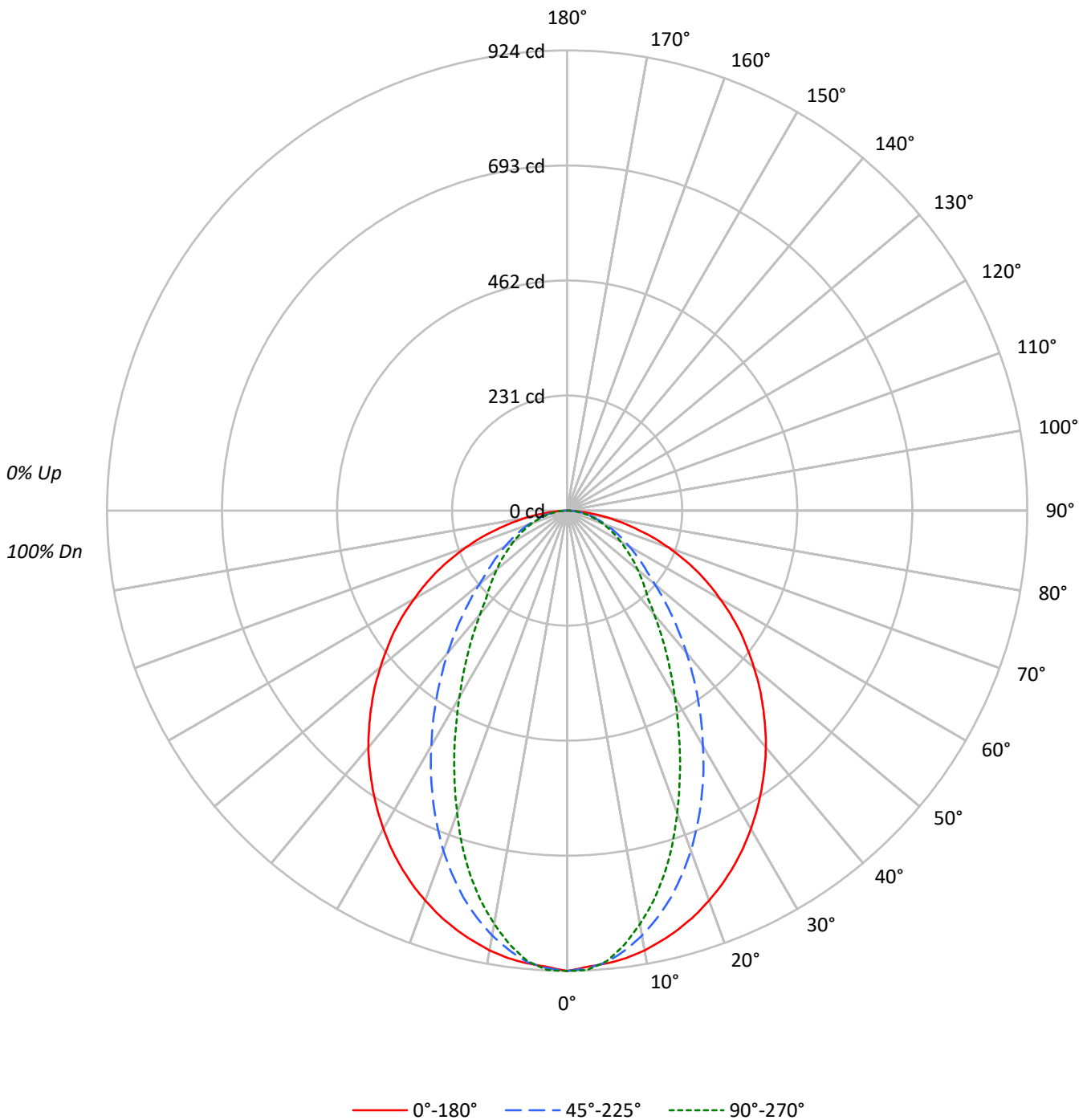
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1621.4 lumens  
Efficiency: N/A  
Efficacy: 93.7 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<sub>in</sub>): 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	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°	11146	11146	11146
5°	11046	11020	10996
10°	10979	10607	10319
15°	10849	10045	9425
20°	10690	9324	8286
25°	10504	8490	7129
30°	10271	7596	6025
35°	10025	6717	5088
40°	9772	5866	4276
45°	9478	5057	3773
50°	9181	4306	3462
55°	8910	3836	3197
60°	8536	3467	2985
65°	8188	3175	2801
70°	7628	2926	2633
75°	6829	2706	2478
80°	5860	2499	2305
85°	4108	2296	2199

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 9478 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	85.7	5.3
10°-20°	226.7	14.0
20°-30°	298.7	18.4
30°-40°	303.1	18.7
40°-50°	263.5	16.3
50°-60°	206.4	12.7
60°-70°	140.3	8.7
70°-80°	76.0	4.7
80°-90°	20.9	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°	611.1	37.7
0°-40°	914.2	56.4
0°-60°	1384.2	85.4
0°-90°	1621.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1621.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	924	924	924	924	924	
5°	913	924	911	902	909	87
15°	869	857	805	765	755	245
25°	790	742	638	559	536	363
35°	681	600	456	369	346	426
45°	556	446	297	229	221	429
55°	424	295	182	156	152	378
65°	287	159	111	100	98	283
75°	147	73	58	54	53	157
85°	30	18	17	15	16	37
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	924.5	924.5	924.5	924.5	924.5
2.5°	916.9	928.6	919.6	920.3	923.1
5°	912.7	923.8	910.6	902.3	908.6
7.5°	906.5	914.8	890.6	877.5	879.5
10°	896.8	899.6	866.4	845.6	842.9
12.5°	883.7	878.8	837.3	806.9	802.1
15°	869.2	856.7	804.8	765.4	755.1
17.5°	852.6	831.8	766.8	718.4	702.5
20°	833.2	804.2	726.7	665.2	645.8
22.5°	812.5	775.1	683.2	610.6	590.5
25°	789.6	741.9	638.2	558.7	535.9
27.5°	764.7	708.7	592.6	507.5	481.9
30°	737.8	674.2	545.6	457.7	432.8
32.5°	710.1	637.5	500.6	411.4	387.2
35°	681.1	600.2	456.4	369.2	345.7
37.5°	651.3	562.1	413.5	329.1	307.0
40°	620.9	523.4	372.7	291.8	271.7
42.5°	588.4	484.7	333.3	256.5	241.3
45°	555.9	446.0	296.6	228.9	221.3
47.5°	523.4	406.6	262.1	209.5	202.6
50°	489.5	368.5	229.6	191.5	184.6
52.5°	456.4	331.2	202.6	174.2	169.4
55°	423.9	294.6	182.5	155.6	152.1
57.5°	390.0	258.6	162.5	141.1	136.9
60°	354.0	224.0	143.8	125.8	123.8
62.5°	321.5	191.5	127.2	112.7	110.6
65°	287.0	159.0	111.3	99.6	98.2
67.5°	251.7	132.1	96.8	87.1	86.4
70°	216.4	111.3	83.0	75.4	74.7
72.5°	181.9	92.0	69.8	65.0	63.6
75°	146.6	73.3	58.1	53.9	53.2
77.5°	114.8	56.7	46.3	43.6	42.9
80°	84.4	42.2	36.0	33.9	33.2
82.5°	55.3	29.0	25.6	24.2	24.2
85°	29.7	18.0	16.6	15.2	15.9
87.5°	10.4	7.6	7.6	6.9	7.6
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	18.93	20.43	19.30	20.74	21.05	14.09	15.58	14.45	15.89	16.21
	3H	20.82	22.16	21.20	22.49	22.85	15.71	17.05	16.09	17.38	17.74
	4H	21.58	22.83	21.98	23.18	23.56	16.35	17.60	16.75	17.95	18.33
	6H	22.14	23.30	22.56	23.67	24.06	16.84	18.00	17.25	18.37	18.76
	8H	22.32	23.42	22.74	23.81	24.21	17.01	18.11	17.44	18.50	18.90
	12H	22.41	23.47	22.84	23.85	24.28	17.13	18.19	17.56	18.57	19.00
4H	2H	18.98	20.24	19.38	20.59	20.97	14.81	16.07	15.21	16.42	16.80
	3H	21.00	22.04	21.41	22.44	22.84	16.63	17.68	17.04	18.08	18.48
	4H	21.82	22.76	22.25	23.17	23.61	17.38	18.32	17.81	18.73	19.17
	6H	22.50	23.32	22.96	23.76	24.22	17.99	18.81	18.45	19.25	19.71
	8H	22.73	23.49	23.19	23.94	24.40	18.20	18.97	18.67	19.41	19.88
	12H	22.88	23.56	23.36	24.04	24.51	18.37	19.05	18.85	19.53	20.00
8H	4H	21.84	22.60	22.30	23.05	23.52	17.76	18.53	18.23	18.97	19.44
	6H	22.57	23.20	23.07	23.69	24.17	18.49	19.12	18.99	19.61	20.09
	8H	22.84	23.40	23.35	23.91	24.40	18.78	19.35	19.29	19.86	20.34
	12H	23.05	23.55	23.56	24.04	24.60	19.02	19.52	19.53	20.02	20.58
12H	4H	21.83	22.51	22.31	22.99	23.46	17.82	18.50	18.30	18.98	19.45
	6H	22.55	23.12	23.07	23.63	24.12	18.57	19.14	19.09	19.65	20.14
	8H	22.86	23.36	23.37	23.85	24.42	18.92	19.42	19.43	19.91	20.48