

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: P1060639

Luminaire Tested: S124RDR-H1020D835-X4F0-XX-UDD-WVL-B

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1060639  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2406-143-37)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124RDR-H1020D835-X4F0-XX-UDD-WVL-B  
Description: DEFINE 4 BLACK REGRESSED DIRECT RECESSED HOUSING WITH WHITE STRAIGHT BLADE LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

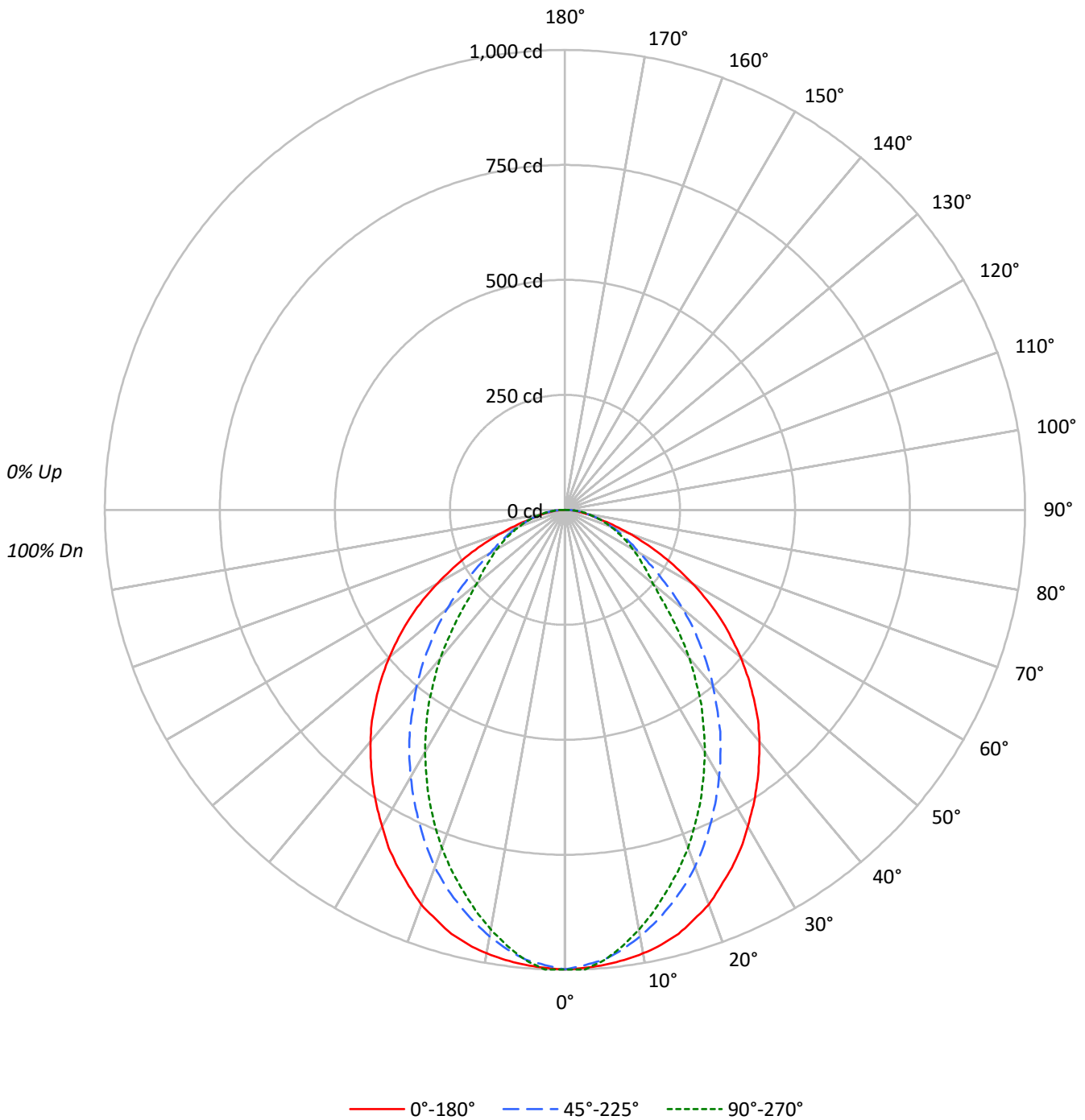
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1926.6 lumens  
Efficiency: N/A  
Efficacy: 61.7 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 0.96 / 1.12  
Luminous Opening: Rectangular (W 0.31' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 31.2  
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	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	86	82	89	84	80	85	82	78	82	79	76	74				
3	93	84	76	71	91	82	75	70	79	74	69	77	72	68	74	70	66	64				
4	86	75	67	61	84	74	67	61	72	65	60	69	64	59	67	62	58	56				
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				
6	74	62	54	48	72	61	53	47	59	52	47	58	51	47	56	51	46	44				
7	69	57	48	43	68	56	48	43	54	47	42	53	47	42	52	46	42	40				
8	65	52	44	39	63	51	44	39	50	43	38	49	43	38	48	42	38	36				
9	61	48	40	35	59	48	40	35	46	40	35	45	39	35	44	39	35	33				
10	57	45	37	32	56	44	37	32	43	37	32	42	36	32	41	36	32	30				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	8604	8604	8604
5°	8586	8485	8494
10°	8562	8233	8100
15°	8509	7924	7641
20°	8371	7575	7166
25°	8155	7129	6626
30°	7904	6666	6048
35°	7652	6183	5431
40°	7391	5635	4738
45°	7063	5061	3960
50°	6669	4466	3350
55°	6205	3789	3102
60°	5501	3215	2931
65°	4688	2967	2775
70°	3666	2749	2631
75°	2499	2539	2539
80°	2152	2385	2445
85°	1857	2322	2549

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7063 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	93.0	4.8
10°-20°	252.5	13.1
20°-30°	350.5	18.2
30°-40°	375.7	19.5
40°-50°	332.8	17.3
50°-60°	250.8	13.0
60°-70°	162.4	8.4
70°-80°	83.3	4.3
80°-90°	25.6	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°	695.9	36.1
0°-40°	1071.6	55.6
0°-60°	1655.3	85.9
0°-90°	1926.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1926.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	999	999	999	999	999	
5°	993	994	982	983	983	94
15°	954	933	889	866	857	269
25°	858	812	750	710	697	395
35°	728	662	588	535	517	455
45°	580	505	416	351	325	447
55°	413	344	252	212	207	367
65°	230	186	146	137	136	228
75°	75	79	76	76	76	89
85°	19	20	24	26	26	22
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	999.2	999.2	999.2	999.2	999.2
2.5°	996.8	1000.3	990.9	998.0	1000.3
5°	993.3	994.5	981.6	982.7	982.7
7.5°	987.4	985.1	963.9	958.1	956.9
10°	979.2	972.2	941.6	929.9	926.4
12.5°	968.6	955.7	917.0	900.5	893.5
15°	954.5	933.4	888.8	866.5	857.1
17.5°	933.4	906.4	859.4	831.3	820.7
20°	913.5	877.1	826.6	791.3	782.0
22.5°	885.3	846.5	789.0	751.4	739.7
25°	858.3	812.5	750.3	710.3	697.4
27.5°	828.9	777.3	710.3	668.1	651.6
30°	794.9	739.7	670.4	625.8	608.2
32.5°	762.0	703.3	629.3	580.0	561.2
35°	727.9	662.2	588.2	535.4	516.6
37.5°	692.7	623.5	542.4	490.8	466.1
40°	657.5	584.7	501.3	442.6	421.5
42.5°	621.1	544.8	459.1	398.0	371.0
45°	580.0	504.9	415.6	351.1	325.2
47.5°	540.1	466.1	375.7	305.3	281.8
50°	497.8	425.0	333.4	265.3	250.1
52.5°	455.6	382.8	292.4	234.8	227.8
55°	413.3	344.0	252.4	212.5	206.6
57.5°	366.3	304.1	217.2	192.6	187.9
60°	319.4	260.7	186.7	173.8	170.2
62.5°	273.6	223.1	165.5	155.0	152.6
65°	230.1	185.5	145.6	137.4	136.2
67.5°	187.9	152.6	126.8	122.1	119.8
70°	145.6	122.1	109.2	106.8	104.5
72.5°	108.0	98.6	92.8	91.6	90.4
75°	75.1	78.7	76.3	76.3	76.3
77.5°	59.9	61.1	62.2	63.4	62.2
80°	43.4	47.0	48.1	50.5	49.3
82.5°	30.5	32.9	36.4	37.6	38.7
85°	18.8	20.0	23.5	25.8	25.8
87.5°	8.2	9.4	11.7	14.1	15.3
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	17.92	19.42	18.28	19.73	20.04	14.48	15.98	14.85	16.29	16.61
	3H	19.12	20.47	19.50	20.79	21.16	16.18	17.52	16.56	17.85	18.21
	4H	19.43	20.69	19.83	21.04	21.42	16.86	18.11	17.26	18.46	18.84
	6H	19.63	20.79	20.04	21.16	21.55	17.40	18.57	17.82	18.93	19.33
	8H	19.69	20.80	20.12	21.19	21.59	17.62	18.73	18.05	19.12	19.52
	12H	19.72	20.78	20.15	21.16	21.59	17.79	18.85	18.22	19.24	19.66
4H	2H	18.06	19.32	18.46	19.67	20.05	15.14	16.40	15.54	16.75	17.13
	3H	19.46	20.51	19.87	20.91	21.31	17.05	18.10	17.46	18.50	18.90
	4H	19.89	20.83	20.32	21.24	21.68	17.85	18.79	18.29	19.21	19.65
	6H	20.21	21.03	20.67	21.47	21.93	18.54	19.36	19.00	19.80	20.26
	8H	20.31	21.07	20.77	21.52	21.99	18.81	19.58	19.28	20.02	20.49
	12H	20.38	21.06	20.86	21.54	22.01	19.04	19.73	19.53	20.21	20.68
8H	4H	20.01	20.78	20.48	21.22	21.69	18.17	18.93	18.63	19.38	19.85
	6H	20.44	21.07	20.93	21.56	22.04	19.00	19.63	19.50	20.12	20.60
	8H	20.59	21.16	21.11	21.67	22.16	19.36	19.93	19.88	20.44	20.93
	12H	20.72	21.22	21.23	21.72	22.28	19.70	20.20	20.21	20.69	21.26
12H	4H	20.02	20.70	20.50	21.18	21.65	18.20	18.88	18.68	19.36	19.83
	6H	20.46	21.03	20.97	21.54	22.03	19.06	19.63	19.57	20.14	20.63
	8H	20.67	21.17	21.18	21.66	22.23	19.49	19.99	20.00	20.48	21.05