

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: P1060659

Luminaire Tested: S124RDR-H1020D850-X4F0-XX-UDD-WVL-W

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1060659  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-73)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124RDR-H1020D850-X4F0-XX-UDD-WVL-W  
Description: DEFINE 4 WHITE REGRESSED DIRECT RECESSED HOUSING WITH WHITE STRAIGHT BLADE  
LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

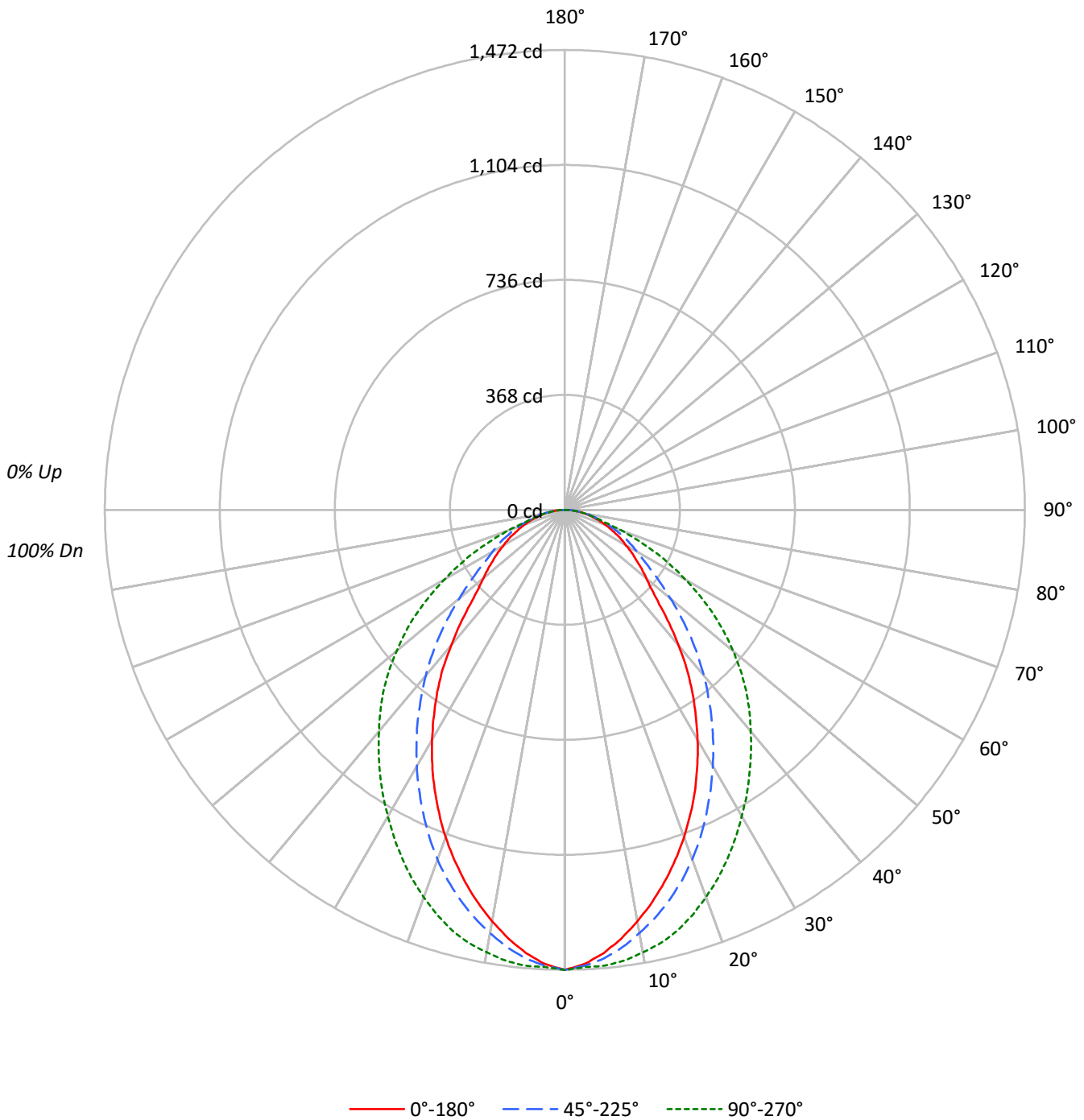
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2701.7 lumens  
Efficiency: N/A  
Efficacy: 86.6 lumens/watt  
Spacing Criteria (0/90/45): 0.93 / 1.15 / 1.11  
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				100
1	110	106	102	99	108	104	100	97	100	97	94	96	93	91	92	90	89	87				87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	80	77	75				75
3	94	84	77	71	91	83	76	70	80	74	69	77	72	68	75	70	67	65				65
4	86	76	68	62	84	74	67	61	72	66	60	70	64	60	68	63	59	57				57
5	80	68	60	54	78	67	60	54	65	59	53	63	58	53	62	56	52	50				50
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45				45
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40				40
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	38	37				37
9	61	49	41	36	60	48	41	36	47	40	35	46	40	35	45	39	35	33				33
10	58	45	38	33	56	45	38	33	44	37	33	43	37	32	42	36	32	31				31

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

	0°	45°	90°
0°	12679	12679	12679
5°	12311	12457	12659
10°	11690	12031	12578
15°	10989	11523	12429
20°	10220	10913	12095
25°	9372	10188	11699
30°	8447	9419	11259
35°	7478	8616	10835
40°	6357	7778	10399
45°	5205	6871	9997
50°	4556	5900	9408
55°	4186	5086	8705
60°	3882	4578	7674
65°	3637	4301	6424
70°	3412	3938	4821
75°	3207	3597	3510
80°	2970	3298	2970
85°	2707	3221	2579

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 9997 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	136.1	5.0
10°-20°	366.1	13.6
20°-30°	500.4	18.5
30°-40°	526.0	19.5
40°-50°	456.4	16.9
50°-60°	344.3	12.7
60°-70°	223.2	8.3
70°-80°	114.5	4.2
80°-90°	34.7	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°	1002.6	37.1
0°-40°	1528.6	56.6
0°-60°	2329.3	86.2
0°-90°	2701.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2701.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1472	1472	1472	1472	1472	
5°	1424	1444	1441	1453	1464	133
15°	1233	1263	1293	1351	1394	346
25°	986	1022	1072	1154	1231	452
35°	711	750	820	929	1031	442
45°	427	468	564	705	821	336
55°	279	287	339	481	580	251
65°	178	182	211	255	315	178
75°	96	108	108	109	106	102
85°	27	34	33	31	26	31
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1472.4	1472.4	1472.4	1472.4	1472.4
2.5°	1455.4	1473.7	1460.6	1463.2	1464.5
5°	1424.2	1443.7	1441.1	1452.8	1464.5
7.5°	1383.8	1407.2	1412.4	1435.9	1455.4
10°	1336.9	1362.9	1375.9	1413.7	1438.5
12.5°	1287.3	1313.4	1336.9	1385.1	1420.2
15°	1232.6	1262.6	1292.6	1351.2	1394.2
17.5°	1175.3	1206.6	1244.3	1308.2	1359.0
20°	1115.3	1146.6	1190.9	1260.0	1319.9
22.5°	1051.5	1086.7	1133.6	1207.9	1278.2
25°	986.4	1021.5	1072.3	1154.4	1231.3
27.5°	918.6	955.1	1009.8	1101.0	1183.1
30°	849.5	888.6	947.3	1043.7	1132.3
32.5°	779.2	820.9	883.4	986.4	1082.8
35°	711.4	750.5	819.6	929.0	1030.7
37.5°	641.1	680.2	754.4	873.0	978.5
40°	565.5	608.5	691.9	814.4	925.1
42.5°	495.1	538.1	628.0	758.3	874.3
45°	427.4	467.8	564.2	704.9	820.9
47.5°	375.3	403.9	500.3	652.8	763.5
50°	340.1	353.1	440.4	595.5	702.3
52.5°	308.8	319.2	385.7	538.1	642.4
55°	278.8	286.7	338.8	480.8	579.8
57.5°	252.8	256.7	297.1	423.5	512.1
60°	225.4	230.6	265.8	364.8	445.6
62.5°	203.3	205.9	238.4	308.8	379.2
65°	178.5	182.4	211.1	255.4	315.3
67.5°	156.4	162.9	182.4	208.5	248.9
70°	135.5	144.6	156.4	169.4	191.5
72.5°	116.0	126.4	132.9	138.1	134.2
75°	96.4	108.1	108.1	109.4	105.5
77.5°	78.2	88.6	87.3	86.0	80.8
80°	59.9	69.1	66.5	65.1	59.9
82.5°	44.3	50.8	48.2	46.9	40.4
85°	27.4	33.9	32.6	31.3	26.1
87.5°	13.0	19.5	18.2	16.9	11.7
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	15.33	16.81	15.69	17.13	17.44	19.07	20.55	19.43	20.87	21.18
	3H	17.00	18.33	17.37	18.66	19.02	20.19	21.52	20.57	21.85	22.21
	4H	17.66	18.91	18.06	19.26	19.64	20.49	21.74	20.89	22.09	22.46
	6H	18.17	19.32	18.58	19.69	20.08	20.69	21.84	21.10	22.21	22.60
	8H	18.34	19.44	18.77	19.83	20.23	20.74	21.84	21.17	22.23	22.63
	12H	18.46	19.51	18.89	19.90	20.33	20.78	21.83	21.21	22.21	22.64
4H	2H	16.12	17.37	16.52	17.72	18.10	19.23	20.48	19.63	20.83	21.21
	3H	17.99	19.03	18.40	19.43	19.83	20.56	21.60	20.97	22.00	22.40
	4H	18.80	19.73	19.23	20.14	20.58	20.98	21.91	21.41	22.33	22.77
	6H	19.44	20.25	19.90	20.69	21.15	21.30	22.11	21.76	22.55	23.01
	8H	19.66	20.42	20.13	20.86	21.33	21.39	22.15	21.86	22.60	23.06
	12H	19.83	20.50	20.31	20.98	21.45	21.47	22.14	21.95	22.62	23.09
8H	4H	19.14	19.90	19.61	20.34	20.81	21.11	21.87	21.58	22.31	22.78
	6H	19.93	20.56	20.43	21.05	21.53	21.53	22.16	22.03	22.65	23.13
	8H	20.25	20.81	20.77	21.32	21.81	21.69	22.25	22.20	22.76	23.25
	12H	20.52	21.01	21.03	21.50	22.07	21.83	22.32	22.34	22.82	23.38
12H	4H	19.17	19.85	19.66	20.33	20.80	21.12	21.79	21.60	22.27	22.74
	6H	19.99	20.56	20.51	21.07	21.56	21.55	22.11	22.07	22.62	23.11
	8H	20.38	20.88	20.89	21.37	21.93	21.76	22.26	22.27	22.75	23.32