

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: P1059524

Luminaire Tested: S123RDR-H1165D850-X4F0-XX-UDD-WVL-S

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1059524  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-67 )  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123RDR-H1165D850-X4F0-XX-UDD-WVL-S  
Description: DEFINE 3 SILVER REGRESSED DIRECT RECESSED HOUSING WITH WHITE STRAIGHT BLADE  
LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

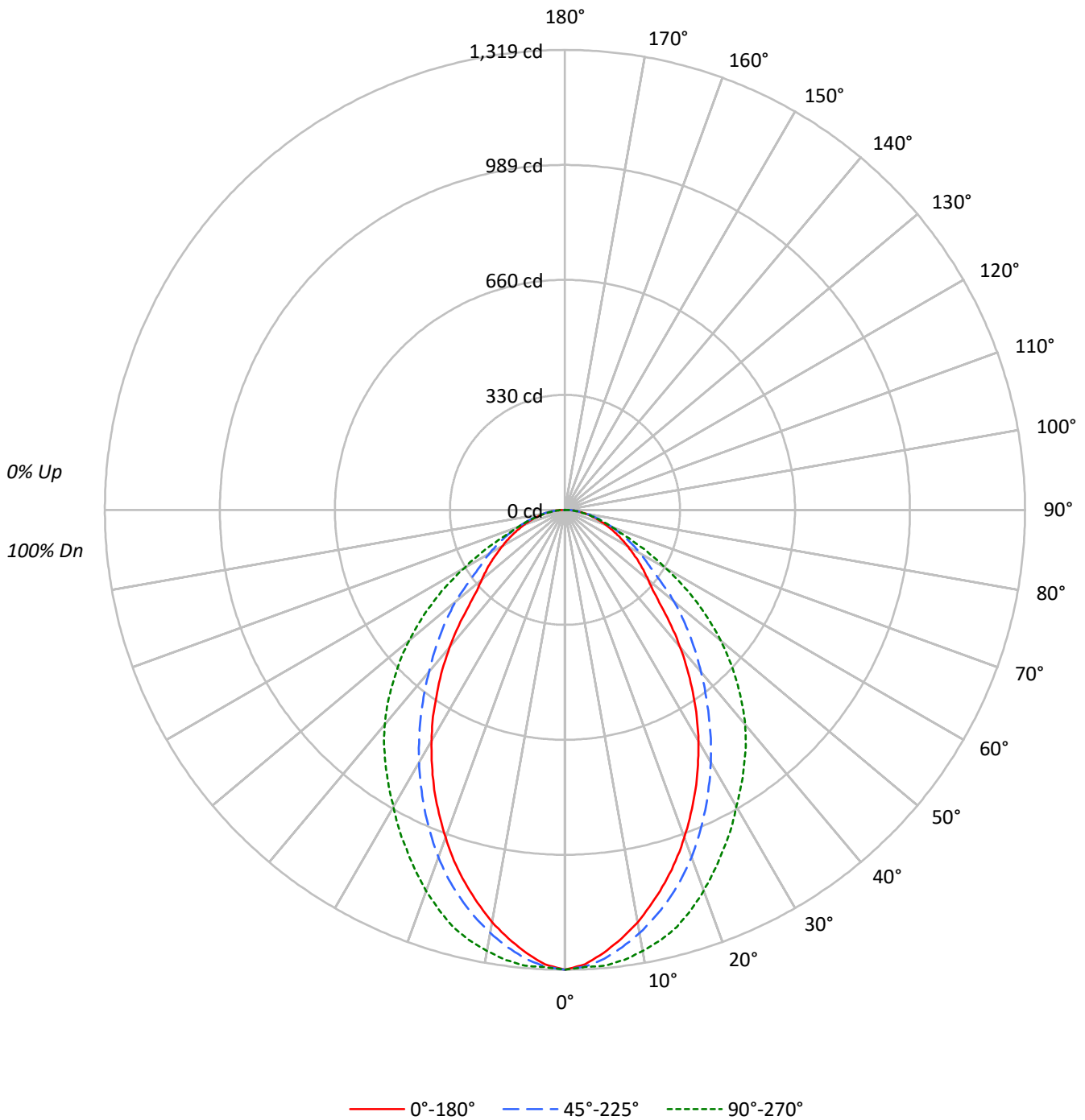
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2382.3 lumens  
Efficiency: N/A  
Efficacy: 65.3 lumens/watt  
Spacing Criteria (0/90/45): 0.93 / 1.12 / 1.1  
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 36.5  
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										
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	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	102	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	71	80	74	69	77	72	68	75	71	67	65					65															
4	87	76	68	62	84	74	67	61	72	66	61	70	64	60	68	63	59	57					57															
5	80	69	60	54	78	68	60	54	66	59	54	64	58	53	62	57	53	51					51															
6	75	63	54	48	73	62	54	48	60	53	48	58	52	47	57	51	47	45					45															
7	70	57	49	44	68	56	49	43	55	48	43	54	47	43	52	47	43	41					41															
8	65	53	45	39	64	52	45	39	51	44	39	50	43	39	48	43	39	37					37															
9	61	49	41	36	60	48	41	36	47	40	36	46	40	36	45	39	35	34					34															
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33	31					31															

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

	0°	45°	90°
0°	15487	15487	15487
5°	15036	15236	15473
10°	14324	14693	15319
15°	13457	14041	15056
20°	12500	13253	14529
25°	11478	12320	13923
30°	10377	11342	13333
35°	9154	10307	12833
40°	7868	9291	12324
45°	6470	8370	11555
50°	5678	7457	10648
55°	5255	6363	9432
60°	4828	5845	7806
65°	4510	5371	6143
70°	4247	4882	4882
75°	3997	4492	4210
80°	3767	4078	3557
85°	3543	3961	2708

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 11555 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	122.0	5.1
10°-20°	326.9	13.7
20°-30°	443.2	18.6
30°-40°	463.4	19.5
40°-50°	401.9	16.9
50°-60°	299.0	12.6
60°-70°	191.9	8.1
70°-80°	102.9	4.3
80°-90°	31.1	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°	892.1	37.4
0°-40°	1355.6	56.9
0°-60°	2056.5	86.3
0°-90°	2382.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2382.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1319	1319	1319	1319	1319	
5°	1276	1297	1293	1302	1313	119
15°	1107	1133	1155	1201	1238	310
25°	886	914	951	1014	1075	406
35°	639	670	719	810	895	399
45°	390	419	504	612	696	307
55°	257	263	311	399	461	230
65°	162	176	193	206	221	162
75°	88	102	99	94	93	93
85°	26	32	29	25	20	30
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1318.9	1318.9	1318.9	1318.9	1318.9
2.5°	1304.9	1323.5	1311.1	1311.1	1312.7
5°	1275.6	1297.2	1292.6	1301.8	1312.7
7.5°	1240.0	1263.2	1264.7	1286.4	1301.8
10°	1201.3	1224.5	1232.3	1263.2	1284.8
12.5°	1155.0	1181.2	1195.2	1233.8	1264.7
15°	1107.0	1133.3	1155.0	1201.3	1238.5
17.5°	1056.0	1082.3	1110.1	1162.7	1202.9
20°	1000.3	1028.2	1060.6	1113.2	1162.7
22.5°	943.1	972.5	1006.5	1063.7	1119.4
25°	885.9	913.8	950.9	1014.3	1074.6
27.5°	825.6	855.0	893.7	963.2	1031.3
30°	765.3	794.7	836.5	910.7	983.3
32.5°	703.5	732.9	777.7	861.2	940.0
35°	638.6	669.5	719.0	810.2	895.2
37.5°	576.7	606.1	661.7	762.2	851.9
40°	513.3	544.2	606.1	714.3	804.0
42.5°	451.5	482.4	555.1	663.3	751.4
45°	389.6	419.0	504.0	612.3	695.8
47.5°	341.7	363.3	456.1	558.2	641.6
50°	310.8	318.5	408.2	505.6	582.9
52.5°	282.9	289.1	355.6	453.0	522.6
55°	256.7	262.8	310.8	398.9	460.7
57.5°	230.4	238.1	276.8	343.2	398.9
60°	205.6	214.9	248.9	293.8	332.4
62.5°	184.0	194.8	221.1	248.9	275.2
65°	162.3	176.3	193.3	205.6	221.1
67.5°	142.2	157.7	167.0	170.1	171.6
70°	123.7	139.2	142.2	142.2	142.2
72.5°	105.1	122.1	119.1	117.5	116.0
75°	88.1	102.0	99.0	94.3	92.8
77.5°	71.1	83.5	78.9	75.8	71.1
80°	55.7	64.9	60.3	57.2	52.6
82.5°	41.7	47.9	43.3	40.2	35.6
85°	26.3	32.5	29.4	24.7	20.1
87.5°	13.9	18.6	15.5	13.9	7.7
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	16.31	17.79	16.67	18.10	18.42	19.06	20.54	19.43	20.86	21.17
	3H	18.02	19.34	18.39	19.67	20.03	20.08	21.41	20.46	21.74	22.10
	4H	18.68	19.92	19.08	20.27	20.65	20.45	21.69	20.85	22.04	22.42
	6H	19.18	20.33	19.59	20.69	21.09	20.70	21.85	21.11	22.22	22.61
	8H	19.35	20.45	19.78	20.84	21.24	20.77	21.87	21.20	22.26	22.66
	12H	19.48	20.53	19.91	20.91	21.34	20.81	21.86	21.24	22.24	22.67
4H	2H	17.08	18.33	17.48	18.68	19.06	19.33	20.58	19.73	20.93	21.31
	3H	19.01	20.04	19.42	20.44	20.84	20.59	21.62	21.00	22.02	22.42
	4H	19.82	20.75	20.25	21.16	21.60	21.07	22.00	21.51	22.42	22.86
	6H	20.46	21.27	20.92	21.71	22.17	21.45	22.26	21.91	22.71	23.17
	8H	20.68	21.44	21.15	21.88	22.35	21.57	22.32	22.03	22.77	23.23
	12H	20.86	21.53	21.34	22.01	22.48	21.64	22.31	22.12	22.79	23.26
8H	4H	20.14	20.89	20.60	21.34	21.80	21.27	22.02	21.73	22.46	22.93
	6H	20.93	21.55	21.43	22.05	22.52	21.75	22.38	22.25	22.87	23.35
	8H	21.26	21.82	21.77	22.33	22.82	21.93	22.49	22.44	23.00	23.49
	12H	21.53	22.03	22.04	22.52	23.09	22.06	22.56	22.57	23.05	23.62
12H	4H	20.16	20.83	20.64	21.31	21.79	21.28	21.95	21.76	22.43	22.90
	6H	20.98	21.54	21.50	22.05	22.54	21.79	22.35	22.30	22.86	23.35
	8H	21.38	21.87	21.89	22.36	22.93	22.02	22.52	22.53	23.01	23.57