

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: P1055597

Luminaire Tested: S123R3DR-S1165D940-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055597
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-6)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DR-S1165D940-X4F0-XX-UDD-F-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

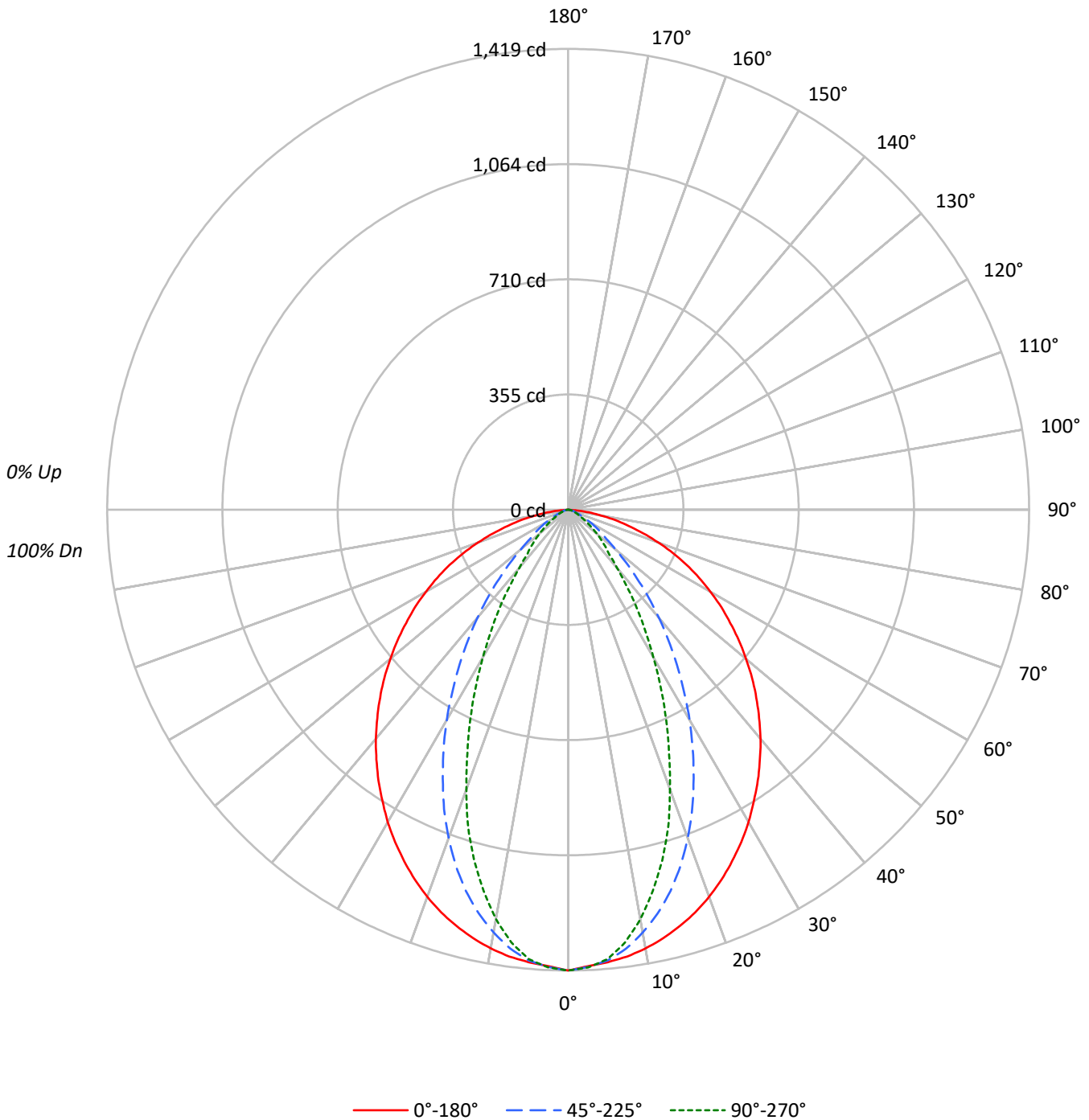
Lumens per Lamp: N/A
Luminaire Lumens: 1973.1 lumens
Efficiency: N/A
Efficacy: 47.1 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 41.9
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	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	111	108	104	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89					89			
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79					79			
3	96	88	81	76	94	86	80	76	84	78	74	81	77	73	79	75	72	70					70			
4	90	80	73	67	88	79	72	67	76	71	66	74	69	65	72	68	64	62					62			
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56					56			
6	78	67	60	54	77	66	59	54	65	58	53	63	57	53	62	57	53	51					51			
7	73	62	54	49	72	61	54	49	60	53	49	58	53	48	57	52	48	46					46			
8	69	57	50	45	68	57	50	45	56	49	45	54	49	44	53	48	44	42					42			
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	45	41	39					39			
10	62	50	43	38	60	49	43	38	48	42	38	48	42	38	47	42	38	36					36			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17106	17106	17106
5°	16926	16861	16813
10°	16793	16184	15674
15°	16568	15174	13950
20°	16271	13804	11750
25°	15886	12147	9482
30°	15464	10409	7302
35°	14983	8591	5403
40°	14498	6837	3683
45°	13964	5113	2774
50°	13394	3556	2170
55°	12805	2600	1583
60°	12194	1946	1136
65°	11471	1304	882
70°	10381	948	712
75°	8958	689	564
80°	7193	562	465
85°	3721	553	373

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 13964 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.2	6.6
10°-20°	341.4	17.3
20°-30°	428.9	21.7
30°-40°	399.5	20.2
40°-50°	305.8	15.5
50°-60°	203.3	10.3
60°-70°	109.6	5.6
70°-80°	44.9	2.3
80°-90°	8.6	0.4
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°	901.5	45.7
0°-40°	1301.0	65.9
0°-60°	1810.1	91.7
0°-90°	1973.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1973.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1419	1419	1419	1419	1419	
5°	1399	1413	1393	1388	1389	133
15°	1327	1306	1216	1144	1118	374
25°	1194	1114	913	761	713	550
35°	1018	867	584	413	367	636
45°	819	605	300	176	163	632
55°	609	352	124	86	75	546
65°	402	136	46	34	31	397
75°	192	32	15	13	12	206
85°	27	4	4	4	3	40
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1418.8	1418.8	1418.8	1418.8	1418.8
2.5°	1406.7	1424.2	1409.4	1410.7	1410.7
5°	1398.6	1413.4	1393.2	1387.9	1389.2
7.5°	1387.9	1397.3	1363.7	1346.2	1343.5
10°	1371.7	1374.4	1322.0	1291.0	1280.3
12.5°	1351.6	1342.1	1273.6	1222.5	1202.3
15°	1327.4	1305.8	1215.7	1144.5	1117.6
17.5°	1300.5	1264.1	1149.8	1057.0	1024.8
20°	1268.2	1217.1	1075.9	960.2	915.8
22.5°	1233.2	1167.3	997.9	860.7	810.9
25°	1194.2	1113.5	913.1	761.2	712.8
27.5°	1153.9	1055.7	829.8	667.0	617.3
30°	1110.8	996.5	747.7	575.6	524.5
32.5°	1063.8	932.0	663.0	490.9	439.8
35°	1018.0	867.4	583.7	412.9	367.1
37.5°	969.6	802.9	507.0	344.3	293.2
40°	921.2	737.0	434.4	277.0	234.0
42.5°	870.1	671.1	365.8	220.6	186.9
45°	819.0	605.2	299.9	176.2	162.7
47.5°	767.9	539.3	242.1	152.0	138.5
50°	714.1	476.1	189.6	129.1	115.7
52.5°	663.0	412.9	147.9	106.2	94.1
55°	609.2	352.3	123.7	86.1	75.3
57.5°	559.5	290.5	102.2	67.2	59.2
60°	505.7	235.3	80.7	52.4	47.1
62.5°	454.6	184.2	61.9	41.7	37.7
65°	402.1	135.8	45.7	33.6	30.9
67.5°	349.7	98.2	35.0	26.9	25.6
70°	294.5	74.0	26.9	21.5	20.2
72.5°	242.1	52.4	20.2	17.5	16.1
75°	192.3	32.3	14.8	13.4	12.1
77.5°	147.9	18.8	10.8	10.8	9.4
80°	103.6	10.8	8.1	8.1	6.7
82.5°	63.2	6.7	5.4	5.4	5.4
85°	26.9	4.0	4.0	4.0	2.7
87.5°	4.0	1.3	1.3	1.3	1.3
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	19.68	21.03	20.04	21.35	21.66	8.25	9.61	8.61	9.92	10.23
	3H	21.43	22.64	21.81	22.97	23.33	8.91	10.12	9.29	10.45	10.81
	4H	22.13	23.26	22.53	23.61	23.99	9.11	10.23	9.51	10.58	10.97
	6H	22.64	23.68	23.06	24.05	24.44	9.23	10.26	9.64	10.63	11.03
	8H	22.78	23.76	23.21	24.15	24.56	9.27	10.24	9.69	10.64	11.04
	12H	22.84	23.77	23.27	24.15	24.58	9.28	10.21	9.71	10.59	11.02
4H	2H	19.49	20.61	19.89	20.96	21.34	8.80	9.93	9.21	10.28	10.66
	3H	21.28	22.20	21.69	22.60	23.01	9.61	10.53	10.02	10.93	11.33
	4H	21.97	22.80	22.41	23.22	23.66	9.86	10.69	10.30	11.10	11.55
	6H	22.54	23.25	23.01	23.70	24.17	10.06	10.77	10.52	11.22	11.68
	8H	22.72	23.38	23.19	23.83	24.30	10.11	10.78	10.58	11.22	11.69
	12H	22.81	23.39	23.29	23.87	24.35	10.15	10.73	10.63	11.22	11.69
8H	4H	21.85	22.51	22.32	22.96	23.43	10.18	10.84	10.65	11.29	11.76
	6H	22.40	22.95	22.91	23.44	23.92	10.43	10.97	10.93	11.46	11.94
	8H	22.58	23.07	23.10	23.58	24.07	10.51	11.00	11.04	11.51	12.01
	12H	22.69	23.11	23.20	23.61	24.18	10.60	11.02	11.11	11.52	12.09
12H	4H	21.81	22.39	22.29	22.88	23.35	10.22	10.81	10.71	11.29	11.76
	6H	22.35	22.83	22.87	23.35	23.84	10.47	10.96	10.99	11.47	11.96
	8H	22.54	22.97	23.06	23.46	24.03	10.60	11.03	11.11	11.52	12.09