

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: P1439767

Luminaire Tested: S123DR-H1005D940-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439767  
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G3-2603-719-3)  
Test Lab: INNOVATION CENTER  
Issue Date: 4/2/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DR-H1005D940-X4F0-XX-UDD-FLB-W  
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

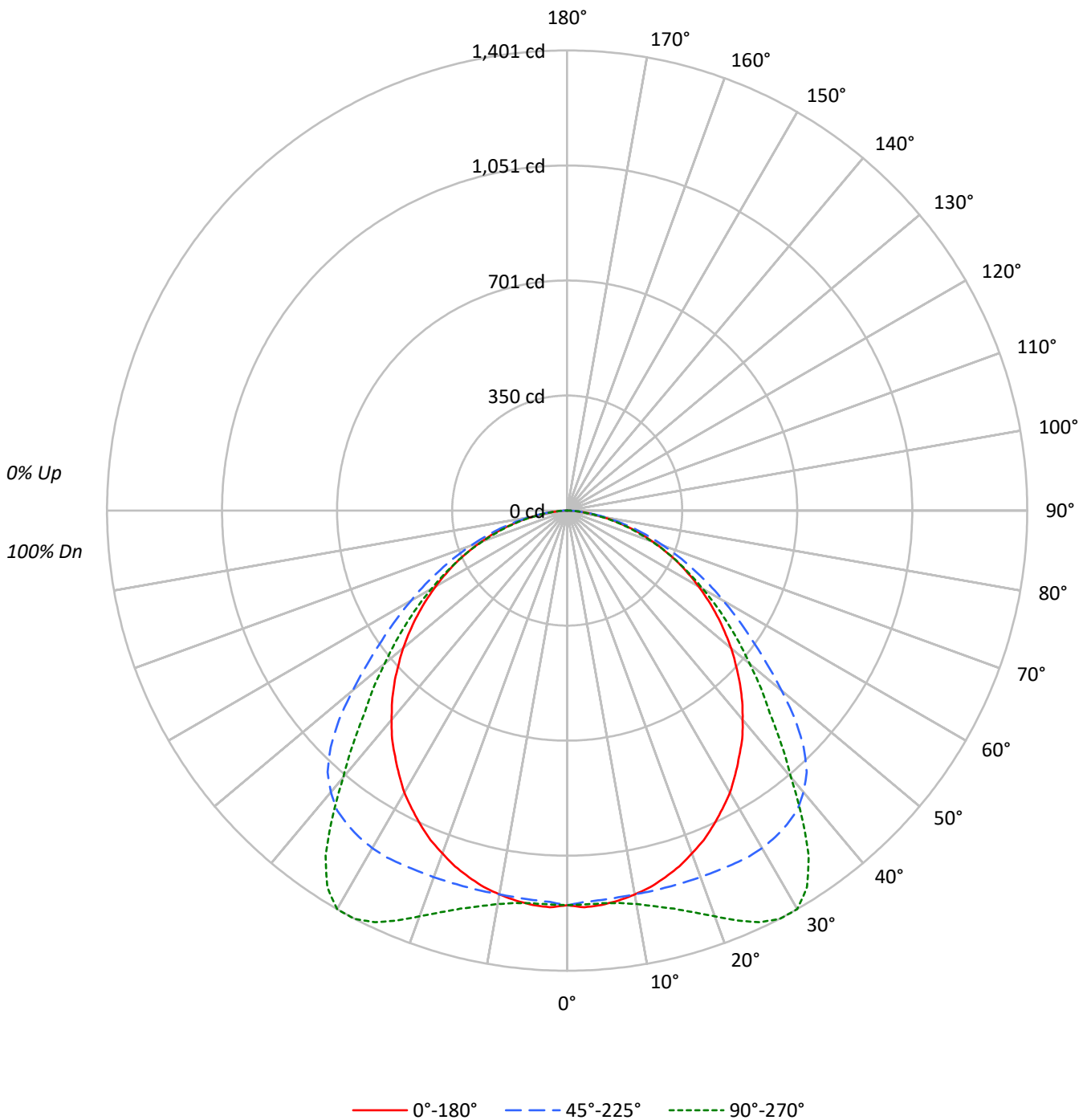
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3633.8 lumens  
Efficiency: N/A  
Efficacy: 99.3 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52  
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 36.6  
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	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	109	105	100	97	106	102	99	95	98	95	92	94	92	89	91	89	87	85					85			
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73	71					71			
3	91	81	73	66	88	79	72	66	76	70	65	73	68	63	71	66	62	60					60			
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	52					52			
5	77	64	55	49	75	63	54	48	61	53	48	59	52	47	57	51	47	45					45			
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	52	46	41	39					39			
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34					34			
8	61	48	39	33	59	47	39	33	46	38	33	44	38	33	43	37	33	31					31			
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	28					28			
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25					25			

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

	0°	45°	90°
0°	14485	14485	14485
5°	14585	14404	14525
10°	14526	14526	14890
15°	14421	14810	15662
20°	14250	15238	16865
25°	14048	15817	18395
30°	13802	16518	19510
35°	13441	17170	18872
40°	13082	17618	16699
45°	12689	17371	14871
50°	12235	15986	13610
55°	11700	14468	12509
60°	11145	13240	11504
65°	10598	12121	10632
70°	9810	10991	9634
75°	8855	9782	8622
80°	7415	8193	7075
85°	5672	6017	5326

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 17371 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	114.4	3.1
10°-20°	339.9	9.4
20°-30°	557.1	15.3
30°-40°	704.7	19.4
40°-50°	688.5	18.9
50°-60°	565.6	15.6
60°-70°	399.0	11.0
70°-80°	212.7	5.9
80°-90°	51.8	1.4
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°	1011.4	27.8
0°-40°	1716.2	47.2
0°-60°	2970.3	81.7
0°-90°	3633.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3633.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1201	1201	1201	1201	1201	
5°	1205	1200	1190	1203	1200	114
15°	1155	1162	1186	1240	1255	326
25°	1056	1087	1189	1333	1383	486
35°	913	976	1167	1302	1282	572
45°	744	829	1019	919	872	573
55°	557	640	688	619	595	498
65°	372	425	425	388	373	367
75°	190	214	210	190	185	202
85°	41	45	44	40	38	50
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1201.4	1201.4	1201.4	1201.4	1201.4
2.5°	1208.9	1205.1	1192.7	1203.9	1200.2
5°	1205.1	1200.2	1190.2	1202.7	1200.2
7.5°	1197.7	1195.2	1187.7	1206.4	1205.1
10°	1186.5	1185.3	1186.5	1213.8	1216.3
12.5°	1174.1	1175.3	1186.5	1225.0	1233.7
15°	1155.4	1161.7	1186.5	1239.9	1254.8
17.5°	1135.6	1145.5	1186.5	1259.8	1282.2
20°	1110.7	1128.1	1187.7	1280.9	1314.5
22.5°	1085.9	1107.0	1187.7	1309.5	1350.5
25°	1056.0	1087.1	1189.0	1333.1	1382.8
27.5°	1023.7	1061.0	1190.2	1351.7	1401.4
30°	991.4	1036.2	1186.5	1359.2	1401.4
32.5°	952.9	1007.6	1179.0	1346.8	1359.2
35°	913.2	976.5	1166.6	1302.0	1282.2
37.5°	875.9	943.0	1150.5	1220.0	1172.8
40°	831.2	907.0	1119.4	1115.7	1061.0
42.5°	788.9	868.4	1079.7	1010.1	965.4
45°	744.2	828.7	1018.8	919.4	872.2
47.5°	697.0	785.2	941.7	833.7	800.1
50°	652.3	740.5	852.3	755.4	725.6
52.5°	603.8	693.3	766.6	685.8	659.7
55°	556.6	639.8	688.3	618.7	595.1
57.5°	509.4	587.7	616.2	555.4	536.7
60°	462.2	533.0	549.1	497.0	477.1
62.5°	416.2	482.1	487.0	441.1	423.7
65°	371.5	424.9	424.9	387.6	372.7
67.5°	324.3	370.2	367.8	333.0	324.3
70°	278.3	316.8	311.8	283.3	273.3
72.5°	234.8	263.4	259.7	237.3	226.1
75°	190.1	213.7	210.0	190.1	185.1
77.5°	147.8	164.0	160.3	146.6	142.9
80°	106.8	119.3	118.0	108.1	101.9
82.5°	72.1	78.3	77.0	70.8	67.1
85°	41.0	44.7	43.5	39.8	38.5
87.5°	16.2	18.6	19.9	18.6	17.4
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	20.93	22.53	21.29	22.84	23.16	20.65	22.26	21.02	22.57	22.89
	3H	22.50	23.94	22.87	24.27	24.63	22.17	23.61	22.55	23.94	24.30
	4H	23.05	24.41	23.45	24.75	25.13	22.70	24.06	23.10	24.41	24.79
	6H	23.41	24.67	23.82	25.04	25.43	23.06	24.32	23.47	24.68	25.08
	8H	23.51	24.71	23.94	25.10	25.50	23.16	24.36	23.58	24.75	25.14
	12H	23.57	24.72	24.00	25.10	25.53	23.21	24.36	23.64	24.74	25.17
4H	2H	21.56	22.92	21.96	23.27	23.65	21.35	22.71	21.75	23.06	23.44
	3H	23.37	24.51	23.78	24.90	25.30	23.07	24.20	23.48	24.60	25.00
	4H	24.06	25.08	24.49	25.50	25.93	23.70	24.73	24.14	25.14	25.58
	6H	24.54	25.43	25.00	25.87	26.33	24.16	25.06	24.62	25.50	25.95
	8H	24.67	25.51	25.14	25.95	26.42	24.29	25.13	24.75	25.57	26.03
	12H	24.76	25.51	25.24	25.98	26.45	24.37	25.12	24.85	25.60	26.07
8H	4H	24.32	25.16	24.79	25.60	26.07	24.01	24.85	24.47	25.29	25.75
	6H	24.92	25.61	25.41	26.10	26.57	24.57	25.26	25.07	25.75	26.23
	8H	25.11	25.73	25.62	26.24	26.72	24.75	25.37	25.26	25.88	26.37
	12H	25.25	25.80	25.76	26.29	26.85	24.88	25.43	25.39	25.92	26.48
12H	4H	24.34	25.09	24.82	25.57	26.04	24.04	24.79	24.52	25.26	25.73
	6H	24.95	25.57	25.46	26.08	26.56	24.62	25.24	25.13	25.75	26.23
	8H	25.19	25.74	25.70	26.23	26.79	24.85	25.40	25.35	25.89	26.45