

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: P1439794

Luminaire Tested: S123DR-H675D940-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439794  
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-H675D940-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

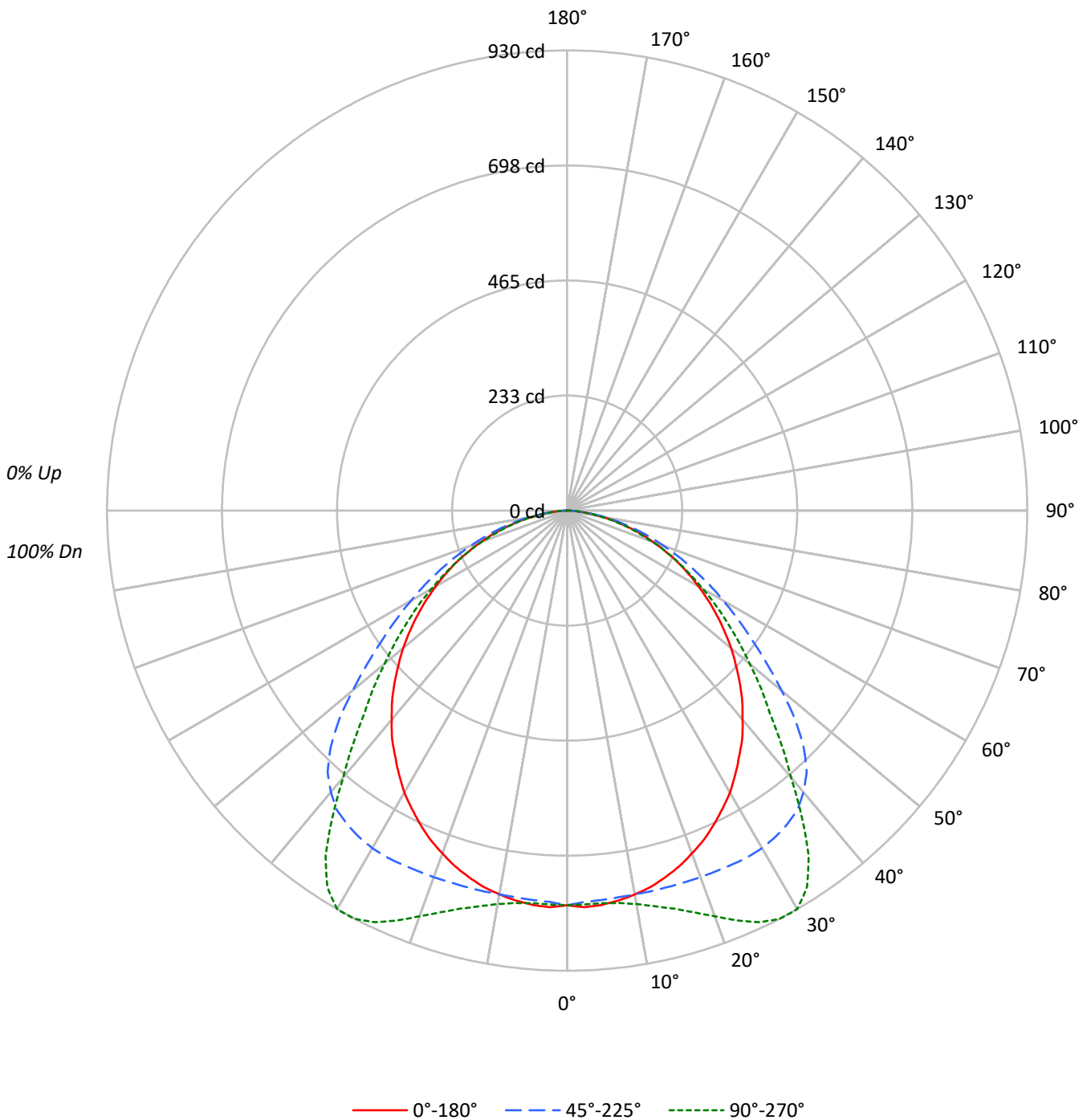
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2412.0 lumens  
Efficiency: N/A  
Efficacy: 101.3 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): 23.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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	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	109	105	100	97	106	102	99	95	98	95	92	94	92	89	91	89	87	85																												
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73	71																												
3	91	81	73	66	88	79	72	66	76	70	65	73	68	63	71	66	62	60																												
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	52																												
5	77	64	55	49	75	63	54	48	61	53	48	59	52	47	57	51	47	45																												
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	52	46	41	39																												
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34																												
8	61	48	39	33	59	47	39	33	46	38	33	44	38	33	43	37	33	31																												
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	28																												
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25																												

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

	0°	45°	90°
0°	9615	9615	9615
5°	9681	9561	9641
10°	9642	9642	9885
15°	9573	9831	10396
20°	9460	10115	11194
25°	9325	10499	12211
30°	9162	10965	12950
35°	8921	11398	12527
40°	8683	11694	11085
45°	8423	11529	9870
50°	8122	10611	9033
55°	7767	9604	8303
60°	7398	8789	7637
65°	7035	8045	7058
70°	6511	7297	6394
75°	5879	6494	5725
80°	4923	5436	4693
85°	3763	3998	3541

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 11529 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	75.9	3.1
10°-20°	225.6	9.4
20°-30°	369.8	15.3
30°-40°	467.8	19.4
40°-50°	457.0	18.9
50°-60°	375.5	15.6
60°-70°	264.8	11.0
70°-80°	141.2	5.9
80°-90°	34.4	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°	671.4	27.8
0°-40°	1139.2	47.2
0°-60°	1971.6	81.7
0°-90°	2412.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2412.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	798	798	798	798	798	
5°	800	797	790	798	797	76
15°	767	771	788	823	833	216
25°	701	722	789	885	918	323
35°	606	648	774	864	851	380
45°	494	550	676	610	579	381
55°	370	425	457	411	395	330
65°	247	282	282	257	247	243
75°	126	142	139	126	123	134
85°	27	30	29	26	26	33
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	797.5	797.5	797.5	797.5	797.5
2.5°	802.4	799.9	791.7	799.1	796.6
5°	799.9	796.6	790.0	798.3	796.6
7.5°	795.0	793.3	788.4	800.8	799.9
10°	787.6	786.7	787.6	805.7	807.4
12.5°	779.3	780.1	787.6	813.1	818.9
15°	767.0	771.1	787.6	823.0	832.9
17.5°	753.8	760.4	787.6	836.2	851.1
20°	737.3	748.8	788.4	850.2	872.5
22.5°	720.8	734.8	788.4	869.2	896.4
25°	701.0	721.6	789.2	884.9	917.9
27.5°	679.5	704.3	790.0	897.3	930.2
30°	658.1	687.8	787.6	902.2	930.2
32.5°	632.5	668.8	782.6	894.0	902.2
35°	606.1	648.2	774.4	864.3	851.1
37.5°	581.4	625.9	763.7	809.8	778.5
40°	551.7	602.0	743.0	740.6	704.3
42.5°	523.7	576.5	716.6	670.5	640.8
45°	494.0	550.1	676.2	610.3	578.9
47.5°	462.6	521.2	625.1	553.4	531.1
50°	433.0	491.5	565.7	501.4	481.6
52.5°	400.8	460.2	508.8	455.2	437.9
55°	369.5	424.7	456.9	410.7	395.0
57.5°	338.1	390.1	409.0	368.6	356.3
60°	306.8	353.8	364.5	329.9	316.7
62.5°	276.3	320.0	323.3	292.8	281.2
65°	246.6	282.0	282.0	257.3	247.4
67.5°	215.2	245.8	244.1	221.0	215.2
70°	184.7	210.3	207.0	188.0	181.4
72.5°	155.9	174.8	172.4	157.5	150.1
75°	126.2	141.8	139.4	126.2	122.9
77.5°	98.1	108.9	106.4	97.3	94.8
80°	70.9	79.2	78.3	71.7	67.6
82.5°	47.8	52.0	51.1	47.0	44.5
85°	27.2	29.7	28.9	26.4	25.6
87.5°	10.7	12.4	13.2	12.4	11.5
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	19.50	21.11	19.87	21.42	21.73	19.23	20.83	19.59	21.15	21.46
	3H	21.07	22.52	21.45	22.84	23.21	20.74	22.19	21.12	22.52	22.88
	4H	21.62	22.98	22.02	23.33	23.71	21.28	22.64	21.68	22.99	23.36
	6H	21.99	23.25	22.40	23.61	24.00	21.64	22.90	22.05	23.26	23.65
	8H	22.09	23.29	22.51	23.68	24.08	21.73	22.93	22.16	23.32	23.72
	12H	22.14	23.29	22.57	23.67	24.10	21.78	22.93	22.21	23.31	23.74
4H	2H	20.14	21.50	20.54	21.85	22.22	19.93	21.29	20.33	21.63	22.01
	3H	21.95	23.08	22.36	23.48	23.88	21.64	22.78	22.05	23.18	23.58
	4H	22.64	23.66	23.07	24.07	24.51	22.28	23.30	22.71	23.72	24.15
	6H	23.12	24.01	23.57	24.45	24.91	22.74	23.63	23.19	24.07	24.53
	8H	23.25	24.08	23.71	24.53	24.99	22.87	23.70	23.33	24.14	24.61
	12H	23.34	24.08	23.82	24.56	25.03	22.95	23.69	23.43	24.17	24.64
8H	4H	22.90	23.74	23.36	24.18	24.64	22.59	23.42	23.05	23.86	24.33
	6H	23.49	24.18	23.99	24.67	25.15	23.15	23.84	23.64	24.33	24.80
	8H	23.69	24.31	24.20	24.81	25.30	23.33	23.95	23.84	24.46	24.94
	12H	23.83	24.38	24.33	24.87	25.43	23.46	24.01	23.96	24.50	25.06
12H	4H	22.92	23.67	23.40	24.14	24.61	22.61	23.36	23.09	23.84	24.31
	6H	23.52	24.15	24.03	24.65	25.14	23.19	23.81	23.70	24.32	24.81
	8H	23.77	24.32	24.27	24.81	25.37	23.42	23.97	23.93	24.46	25.02