

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: P242551

Luminaire Tested: S123RDRP-S775D935-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242551  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-25)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123RDRP-S775D935-X4F0-XX-UDD-F-W  
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

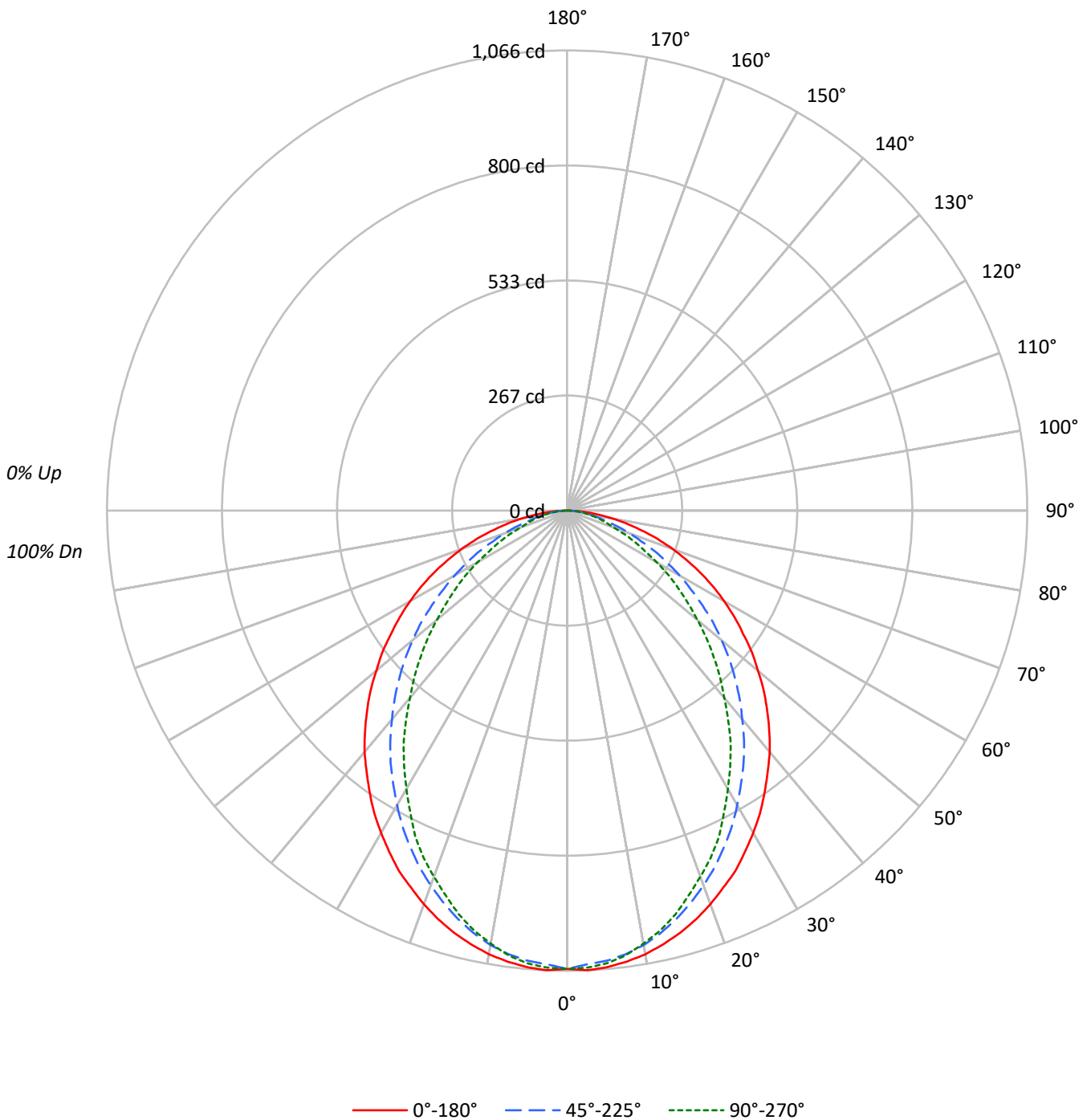
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2398.4 lumens  
Efficiency: N/A  
Efficacy: 90.8 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.07 / 1.22  
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 26.4  
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	110	105	101	98	107	103	99	96	99	96	93	95	93	90	91	89	88	86																												
2	100	93	86	81	98	91	85	80	87	83	78	84	80	77	81	78	75	73																												
3	92	82	75	68	90	81	74	68	78	72	67	75	70	66	73	68	64	62																												
4	85	73	65	59	83	72	64	58	70	63	58	67	62	57	65	60	56	54																												
5	78	66	57	51	76	65	57	51	63	56	50	61	55	50	59	54	49	47																												
6	73	60	51	45	71	59	51	45	57	50	45	55	49	44	54	48	44	42																												
7	67	54	46	40	66	54	46	40	52	45	40	51	44	39	49	44	39	37																												
8	63	50	42	36	61	49	41	36	48	41	36	47	40	36	46	40	35	34																												
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30																												
10	55	43	35	30	54	42	35	30	41	34	30	40	34	29	39	34	29	28																												

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

	0°	45°	90°
0°	12868	12868	12868
5°	12917	12739	12812
10°	12844	12579	12537
15°	12706	12285	12155
20°	12516	11918	11639
25°	12322	11503	11135
30°	12063	11026	10425
35°	11798	10549	9772
40°	11552	9986	8964
45°	11231	9432	8235
50°	10879	8801	7420
55°	10518	8079	6659
60°	10187	7307	5823
65°	9754	6470	4988
70°	9214	5433	4030
75°	8425	4276	3789
80°	7511	3783	3483
85°	6342	3352	3115

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 11231 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	99.8	4.2
10°-20°	277.6	11.6
20°-30°	399.7	16.7
30°-40°	450.2	18.8
40°-50°	430.6	18.0
50°-60°	352.5	14.7
60°-70°	237.6	9.9
70°-80°	119.2	5.0
80°-90°	31.2	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°	777.2	32.4
0°-40°	1227.3	51.2
0°-60°	2010.4	83.8
0°-90°	2398.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2398.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1062	1062	1062	1062	1062	
5°	1062	1057	1047	1055	1053	101
15°	1012	1003	979	975	969	285
25°	921	900	860	842	833	424
35°	797	766	713	676	660	499
45°	655	616	550	501	480	506
55°	498	456	382	332	315	446
65°	340	293	226	183	174	337
75°	180	139	91	83	81	192
85°	46	27	24	22	22	53
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1061.6	1061.6	1061.6	1061.6	1061.6
2.5°	1065.9	1062.5	1052.1	1061.6	1059.9
5°	1061.6	1057.3	1047.0	1054.7	1053.0
7.5°	1053.9	1049.6	1036.6	1041.8	1039.2
10°	1043.5	1037.5	1022.0	1022.9	1018.6
12.5°	1028.9	1022.0	1002.2	1001.3	996.2
15°	1012.5	1003.1	979.0	974.7	968.6
17.5°	992.7	982.4	952.3	943.7	935.0
20°	970.3	956.6	923.9	912.7	902.3
22.5°	945.4	929.0	893.7	879.1	869.6
25°	921.3	899.7	860.1	842.1	832.6
27.5°	892.0	868.8	825.7	801.6	787.0
30°	861.9	836.0	787.8	758.5	744.8
32.5°	831.7	801.6	749.9	717.2	702.6
35°	797.3	766.3	712.9	675.9	660.4
37.5°	762.8	729.3	673.3	632.0	613.0
40°	730.1	692.2	631.1	586.3	566.5
42.5°	693.1	655.2	591.5	541.6	524.3
45°	655.2	616.5	550.2	501.1	480.4
47.5°	618.2	575.1	509.7	456.3	438.2
50°	576.9	536.4	466.7	413.3	393.5
52.5°	539.8	495.1	426.2	370.2	353.0
55°	497.7	455.5	382.3	332.3	315.1
57.5°	459.8	414.1	340.1	292.7	278.1
60°	420.2	372.8	301.4	254.9	240.2
62.5°	380.6	333.2	261.7	218.7	203.2
65°	340.1	292.7	225.6	183.4	173.9
67.5°	299.6	251.4	186.0	154.1	143.8
70°	260.0	213.5	153.3	123.1	113.7
72.5°	220.4	174.8	121.4	98.2	95.6
75°	179.9	138.6	91.3	82.7	80.9
77.5°	142.9	105.0	71.5	66.3	64.6
80°	107.6	72.3	54.2	51.7	49.9
82.5°	74.0	44.8	38.7	36.2	36.2
85°	45.6	26.7	24.1	22.4	22.4
87.5°	20.7	11.2	11.2	10.3	9.5
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	20.32	21.88	20.69	22.19	22.51	17.69	19.25	18.06	19.56	19.88
	3H	22.10	23.50	22.48	23.83	24.19	18.81	20.20	19.18	20.53	20.89
	4H	22.76	24.07	23.16	24.42	24.80	19.20	20.51	19.60	20.86	21.24
	6H	23.24	24.46	23.65	24.82	25.21	19.52	20.73	19.93	21.10	21.49
	8H	23.39	24.55	23.82	24.94	25.34	19.63	20.79	20.06	21.18	21.58
	12H	23.49	24.60	23.92	24.98	25.41	19.71	20.81	20.14	21.19	21.62
4H	2H	20.58	21.90	20.98	22.24	22.62	18.41	19.72	18.81	20.07	20.45
	3H	22.55	23.64	22.96	24.04	24.44	19.68	20.78	20.10	21.18	21.58
	4H	23.32	24.30	23.75	24.71	25.15	20.17	21.15	20.60	21.56	22.00
	6H	23.91	24.77	24.37	25.21	25.67	20.58	21.44	21.04	21.88	22.34
	8H	24.10	24.90	24.57	25.35	25.81	20.73	21.53	21.19	21.97	22.44
	12H	24.25	24.97	24.73	25.44	25.91	20.84	21.56	21.32	22.03	22.50
8H	4H	23.37	24.17	23.83	24.62	25.08	20.49	21.29	20.95	21.73	22.20
	6H	24.03	24.69	24.53	25.18	25.66	21.00	21.66	21.50	22.15	22.63
	8H	24.27	24.86	24.78	25.37	25.86	21.20	21.80	21.72	22.31	22.79
	12H	24.47	24.99	24.98	25.48	26.05	21.38	21.90	21.88	22.39	22.96
12H	4H	23.36	24.08	23.84	24.55	25.02	20.53	21.25	21.01	21.72	22.19
	6H	24.02	24.61	24.53	25.12	25.61	21.06	21.66	21.57	22.16	22.65
	8H	24.29	24.82	24.80	25.31	25.87	21.32	21.84	21.83	22.33	22.90