

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: P243244

Luminaire Tested: S122RDRP-H675D940-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243244  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-63)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122RDRP-H675D940-X4F0-XX-UDD-F-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

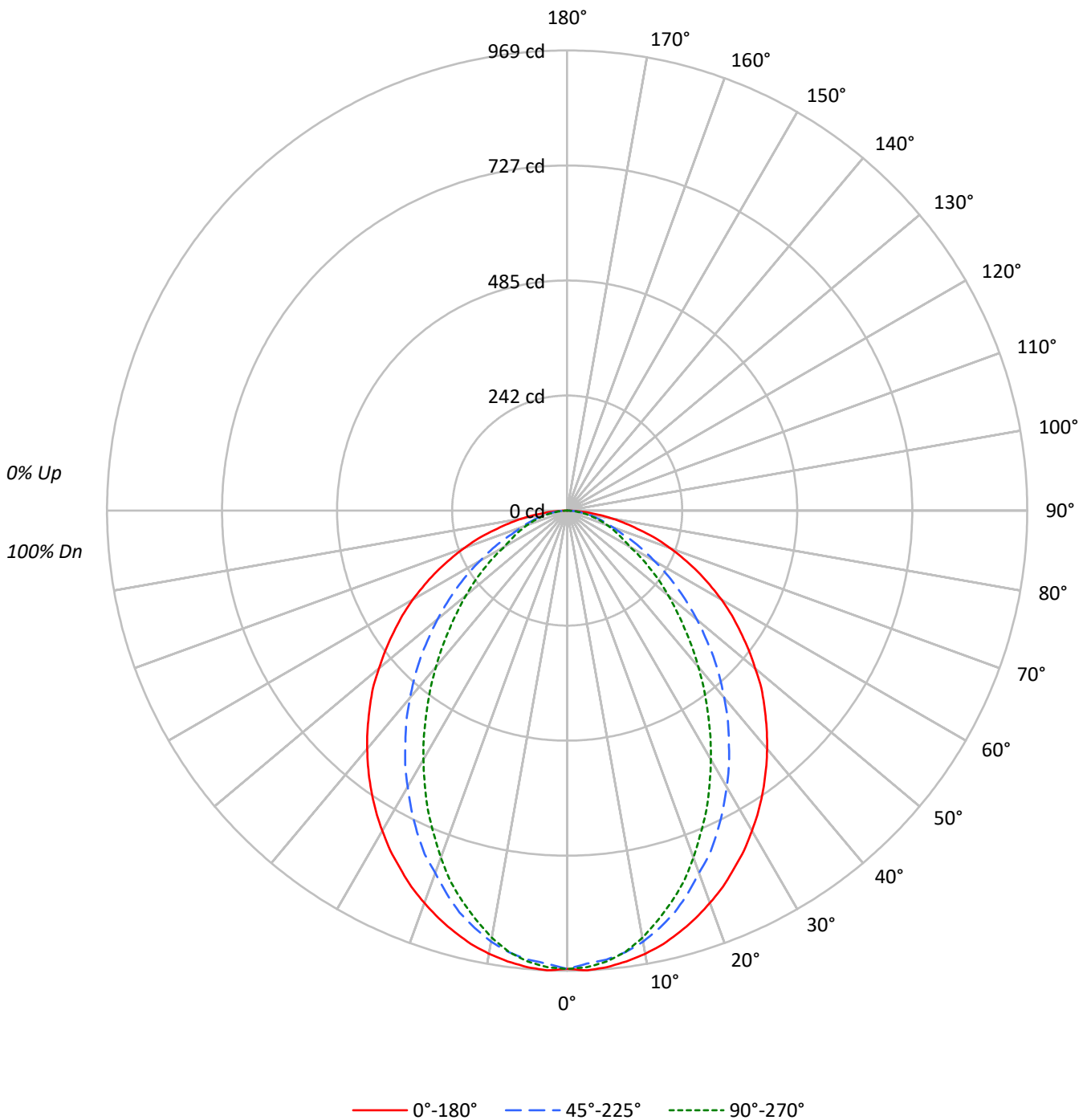
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1979.0 lumens  
Efficiency: N/A  
Efficacy: 83.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.15' x L: 3.88' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.6  
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	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	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86																												
2	101	94	87	82	98	92	86	81	88	83	79	85	81	77	82	79	76	74																												
3	93	83	76	70	90	82	75	69	79	73	68	76	71	67	74	69	66	64																												
4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	57	55																												
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49																												
6	74	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	43																												
7	68	56	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	39																												
8	64	51	43	38	62	51	43	37	49	42	37	48	42	37	47	41	37	35																												
9	60	47	39	34	59	47	39	34	46	39	34	44	38	34	44	38	34	32																												
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29																												

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

	0°	45°	90°
0°	18381	18381	18381
5°	18451	18147	18228
10°	18326	17827	17665
15°	18109	17272	16795
20°	17822	16455	15762
25°	17480	15712	14594
30°	17123	14778	13313
35°	16726	13803	11985
40°	16292	12793	10682
45°	15834	11729	9396
50°	15320	10558	8241
55°	14791	9401	7107
60°	14305	8088	5806
65°	13661	6828	5368
70°	12843	5658	5007
75°	11702	5144	4592
80°	10497	4563	4113
85°	8742	3825	3650

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 15834 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	90.4	4.6
10°-20°	247.7	12.5
20°-30°	347.5	17.6
30°-40°	378.5	19.1
40°-50°	347.9	17.6
50°-60°	273.0	13.8
60°-70°	178.1	9.0
70°-80°	92.1	4.7
80°-90°	23.8	1.2
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°	685.6	34.6
0°-40°	1064.0	53.8
0°-60°	1684.9	85.1
0°-90°	1979.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1979.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	965	965	965	965	965	
5°	965	960	949	956	953	92
15°	918	908	876	858	852	259
25°	832	803	748	711	694	383
35°	719	672	594	539	515	450
45°	588	528	435	372	349	454
55°	445	379	283	230	214	399
65°	303	230	152	123	119	299
75°	159	99	70	64	62	170
85°	40	19	18	17	17	46
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	965.0	965.0	965.0	965.0	965.0
2.5°	969.1	965.0	955.0	964.1	962.5
5°	965.0	960.0	949.1	955.8	953.3
7.5°	957.5	952.5	938.3	941.6	937.5
10°	947.5	940.8	921.7	918.3	913.3
12.5°	935.0	925.8	900.0	890.0	883.4
15°	918.3	907.5	875.9	858.4	851.7
17.5°	900.0	884.2	845.1	825.1	818.4
20°	879.2	860.9	811.8	790.9	777.6
22.5°	857.5	834.2	783.5	751.0	735.2
25°	831.7	802.6	747.6	711.0	694.4
27.5°	806.8	772.6	710.2	667.7	649.4
30°	778.5	741.0	671.9	622.8	605.3
32.5°	750.1	706.9	634.4	581.1	561.2
35°	719.3	671.9	593.6	538.7	515.4
37.5°	687.7	638.6	556.2	495.4	472.9
40°	655.2	600.3	514.5	451.3	429.6
42.5°	621.9	566.1	475.4	410.5	389.6
45°	587.8	527.9	435.4	372.2	348.8
47.5°	555.3	490.4	394.6	334.7	312.2
50°	517.0	452.9	356.3	295.6	278.1
52.5°	482.1	415.5	318.9	260.6	245.6
55°	445.4	378.8	283.1	229.8	214.0
57.5°	411.3	340.5	247.3	199.0	184.0
60°	375.5	303.9	212.3	168.2	152.4
62.5°	338.0	266.4	181.5	139.9	134.9
65°	303.1	229.8	151.5	123.2	119.1
67.5°	265.6	195.7	120.7	108.2	104.1
70°	230.6	162.4	101.6	92.4	89.9
72.5°	196.5	130.7	85.8	78.3	75.8
75°	159.0	99.1	69.9	64.1	62.4
77.5°	126.6	69.9	55.8	51.6	50.0
80°	95.7	50.8	41.6	39.1	37.5
82.5°	65.8	34.1	29.1	27.5	26.6
85°	40.0	19.1	17.5	16.7	16.7
87.5°	15.8	7.5	7.5	6.7	6.7
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	21.36	22.88	21.73	23.20	23.51	17.25	18.77	17.61	19.08	19.40
	3H	23.13	24.49	23.51	24.82	25.18	18.54	19.91	18.92	20.23	20.60
	4H	23.79	25.07	24.19	25.42	25.80	19.05	20.33	19.45	20.68	21.06
	6H	24.28	25.46	24.69	25.83	26.22	19.43	20.61	19.84	20.98	21.37
	8H	24.44	25.57	24.87	25.96	26.36	19.55	20.68	19.98	21.07	21.47
	12H	24.55	25.63	24.98	26.01	26.44	19.64	20.71	20.07	21.10	21.53
4H	2H	21.46	22.74	21.86	23.09	23.47	17.95	19.23	18.35	19.58	19.96
	3H	23.40	24.46	23.81	24.86	25.27	19.43	20.49	19.84	20.89	21.29
	4H	24.14	25.10	24.58	25.52	25.96	20.03	20.99	20.46	21.40	21.84
	6H	24.74	25.57	25.19	26.01	26.47	20.52	21.36	20.98	21.80	22.26
	8H	24.95	25.73	25.41	26.17	26.64	20.68	21.46	21.15	21.91	22.37
	12H	25.11	25.81	25.59	26.29	26.76	20.80	21.50	21.28	21.98	22.45
8H	4H	24.17	24.95	24.63	25.39	25.86	20.39	21.17	20.86	21.61	22.08
	6H	24.81	25.45	25.30	25.94	26.42	20.99	21.63	21.48	22.12	22.60
	8H	25.06	25.63	25.57	26.14	26.63	21.21	21.79	21.72	22.29	22.78
	12H	25.27	25.78	25.78	26.27	26.84	21.39	21.90	21.90	22.39	22.96
12H	4H	24.15	24.85	24.64	25.33	25.80	20.44	21.13	20.92	21.61	22.08
	6H	24.79	25.37	25.30	25.88	26.36	21.05	21.63	21.56	22.14	22.63
	8H	25.07	25.58	25.58	26.07	26.64	21.33	21.84	21.84	22.33	22.89