

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: P243229

Luminaire Tested: S122RDRP-H675D840-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243229  
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-H675D840-X4F0-XX-UDD-F-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

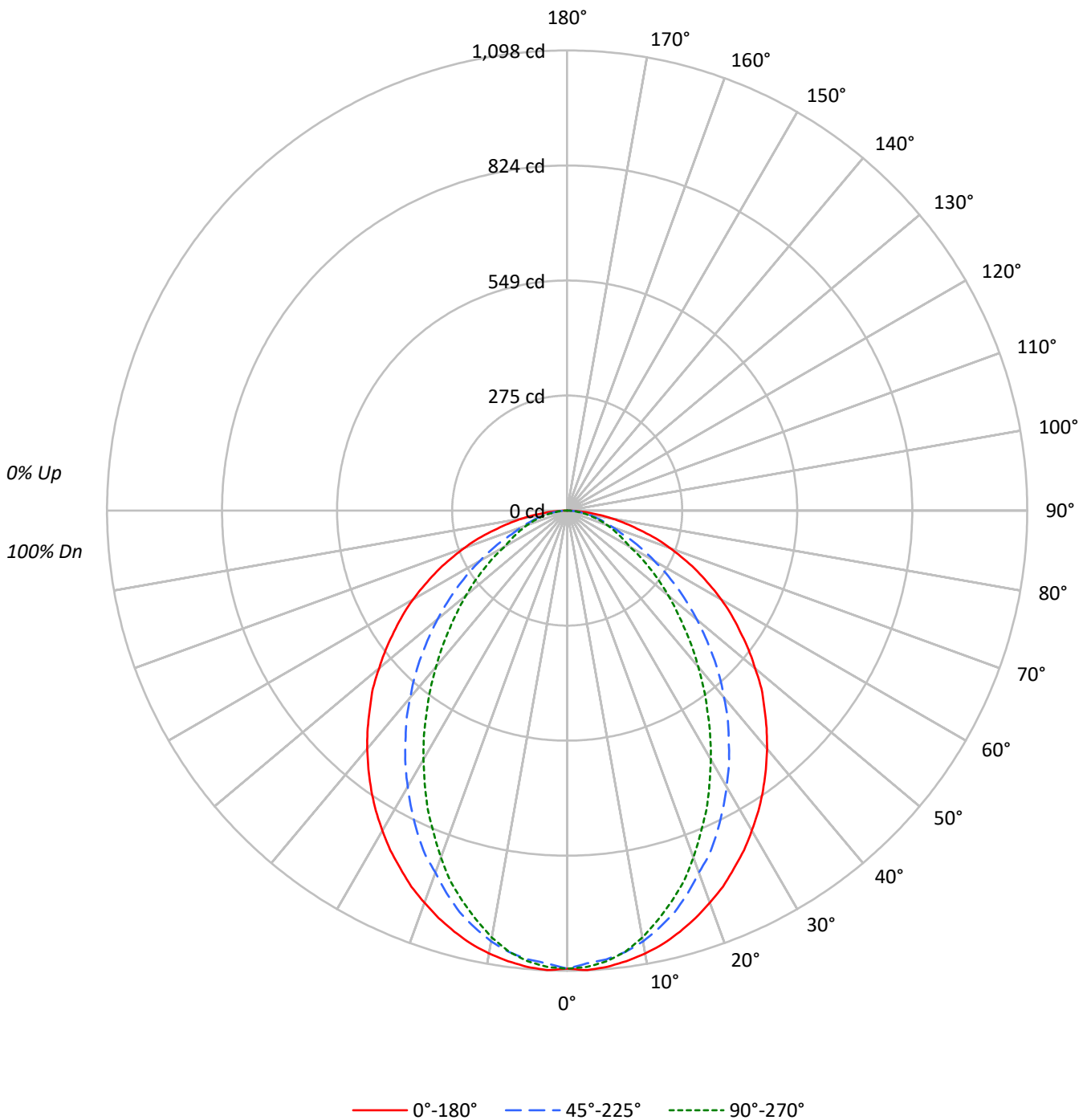
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2241.2 lumens  
Efficiency: N/A  
Efficacy: 95.0 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 (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				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	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°	20815	20815	20815
5°	20895	20553	20642
10°	20753	20189	20007
15°	20508	19560	19022
20°	20183	18634	17852
25°	19796	17795	16528
30°	19390	16736	15077
35°	18944	15633	13570
40°	18452	14489	12097
45°	17932	13283	10643
50°	17350	11960	9331
55°	16750	10647	8046
60°	16198	9158	6571
65°	15468	7734	6076
70°	14547	6405	5669
75°	13254	5829	5203
80°	11891	5166	4651
85°	9900	4327	4131

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 17932 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	102.4	4.6
10°-20°	280.5	12.5
20°-30°	393.5	17.6
30°-40°	428.6	19.1
40°-50°	394.0	17.6
50°-60°	309.2	13.8
60°-70°	201.7	9.0
70°-80°	104.3	4.7
80°-90°	27.0	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°	776.4	34.6
0°-40°	1205.0	53.8
0°-60°	1908.2	85.1
0°-90°	2241.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2241.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1093	1093	1093	1093	1093	
5°	1093	1087	1075	1082	1080	104
15°	1040	1028	992	972	965	293
25°	942	909	847	805	786	434
35°	815	761	672	610	584	509
45°	666	598	493	422	395	514
55°	504	429	321	260	242	452
65°	343	260	172	140	135	339
75°	180	112	79	73	71	193
85°	45	22	20	19	19	52
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1092.8	1092.8	1092.8	1092.8	1092.8
2.5°	1097.5	1092.8	1081.5	1091.9	1090.0
5°	1092.8	1087.2	1074.9	1082.4	1079.6
7.5°	1084.3	1078.7	1062.6	1066.4	1061.7
10°	1073.0	1065.5	1043.8	1040.0	1034.4
12.5°	1058.9	1048.5	1019.3	1007.9	1000.4
15°	1040.0	1027.8	991.9	972.1	964.6
17.5°	1019.3	1001.3	957.0	934.4	926.9
20°	995.7	974.9	919.3	895.7	880.7
22.5°	971.2	944.8	887.3	850.5	832.6
25°	941.9	908.9	846.7	805.2	786.4
27.5°	913.7	875.0	804.3	756.2	735.5
30°	881.6	839.2	760.9	705.3	685.5
32.5°	849.5	800.5	718.5	658.1	635.5
35°	814.7	760.9	672.3	610.1	583.6
37.5°	778.8	723.2	629.9	561.0	535.6
40°	742.1	679.8	582.7	511.0	486.5
42.5°	704.3	641.2	538.4	464.8	441.3
45°	665.7	597.8	493.1	421.5	395.1
47.5°	628.9	555.4	446.9	379.0	353.6
50°	585.5	512.9	403.6	334.7	314.9
52.5°	545.9	470.5	361.1	295.1	278.2
55°	504.4	429.0	320.6	260.2	242.3
57.5°	465.8	385.6	280.0	225.4	208.4
60°	425.2	344.2	240.4	190.5	172.5
62.5°	382.8	301.7	205.6	158.4	152.7
65°	343.2	260.2	171.6	139.5	134.8
67.5°	300.8	221.6	136.7	122.6	117.9
70°	261.2	183.9	115.0	104.7	101.8
72.5°	222.5	148.0	97.1	88.6	85.8
75°	180.1	112.2	79.2	72.6	70.7
77.5°	143.3	79.2	63.2	58.5	56.6
80°	108.4	57.5	47.1	44.3	42.4
82.5°	74.5	38.7	33.0	31.1	30.2
85°	45.3	21.7	19.8	18.9	18.9
87.5°	17.9	8.5	8.5	7.5	7.5
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	21.79	23.32	22.16	23.63	23.94	17.68	19.20	18.05	19.52	19.83
	3H	23.56	24.93	23.94	25.25	25.62	18.97	20.34	19.35	20.67	21.03
	4H	24.22	25.50	24.62	25.85	26.23	19.48	20.76	19.88	21.11	21.49
	6H	24.71	25.89	25.12	26.26	26.65	19.86	21.05	20.28	21.41	21.81
	8H	24.88	26.00	25.30	26.39	26.79	19.99	21.11	20.41	21.50	21.90
	12H	24.99	26.06	25.42	26.45	26.88	20.07	21.15	20.50	21.53	21.96
4H	2H	21.89	23.18	22.29	23.52	23.90	18.39	19.67	18.79	20.02	20.40
	3H	23.83	24.90	24.24	25.30	25.70	19.86	20.92	20.27	21.32	21.72
	4H	24.58	25.53	25.01	25.95	26.39	20.46	21.42	20.90	21.84	22.28
	6H	25.17	26.00	25.63	26.44	26.90	20.96	21.79	21.41	22.23	22.69
	8H	25.38	26.16	25.84	26.60	27.07	21.12	21.90	21.58	22.34	22.81
	12H	25.54	26.24	26.03	26.72	27.19	21.24	21.93	21.72	22.41	22.88
8H	4H	24.60	25.38	25.07	25.82	26.29	20.83	21.60	21.29	22.05	22.52
	6H	25.24	25.88	25.74	26.37	26.85	21.42	22.06	21.92	22.55	23.03
	8H	25.49	26.07	26.00	26.58	27.06	21.64	22.22	22.15	22.73	23.22
	12H	25.70	26.21	26.21	26.71	27.27	21.82	22.33	22.33	22.82	23.39
12H	4H	24.59	25.28	25.07	25.76	26.23	20.87	21.56	21.35	22.04	22.51
	6H	25.22	25.80	25.73	26.31	26.80	21.48	22.06	22.00	22.57	23.06
	8H	25.50	26.01	26.01	26.51	27.07	21.76	22.27	22.27	22.76	23.33