

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: P243564

Luminaire Tested: S124RDRP-H795D830-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243564  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-65)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124RDRP-H795D830-X4F0-XX-UDD-F-W  
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

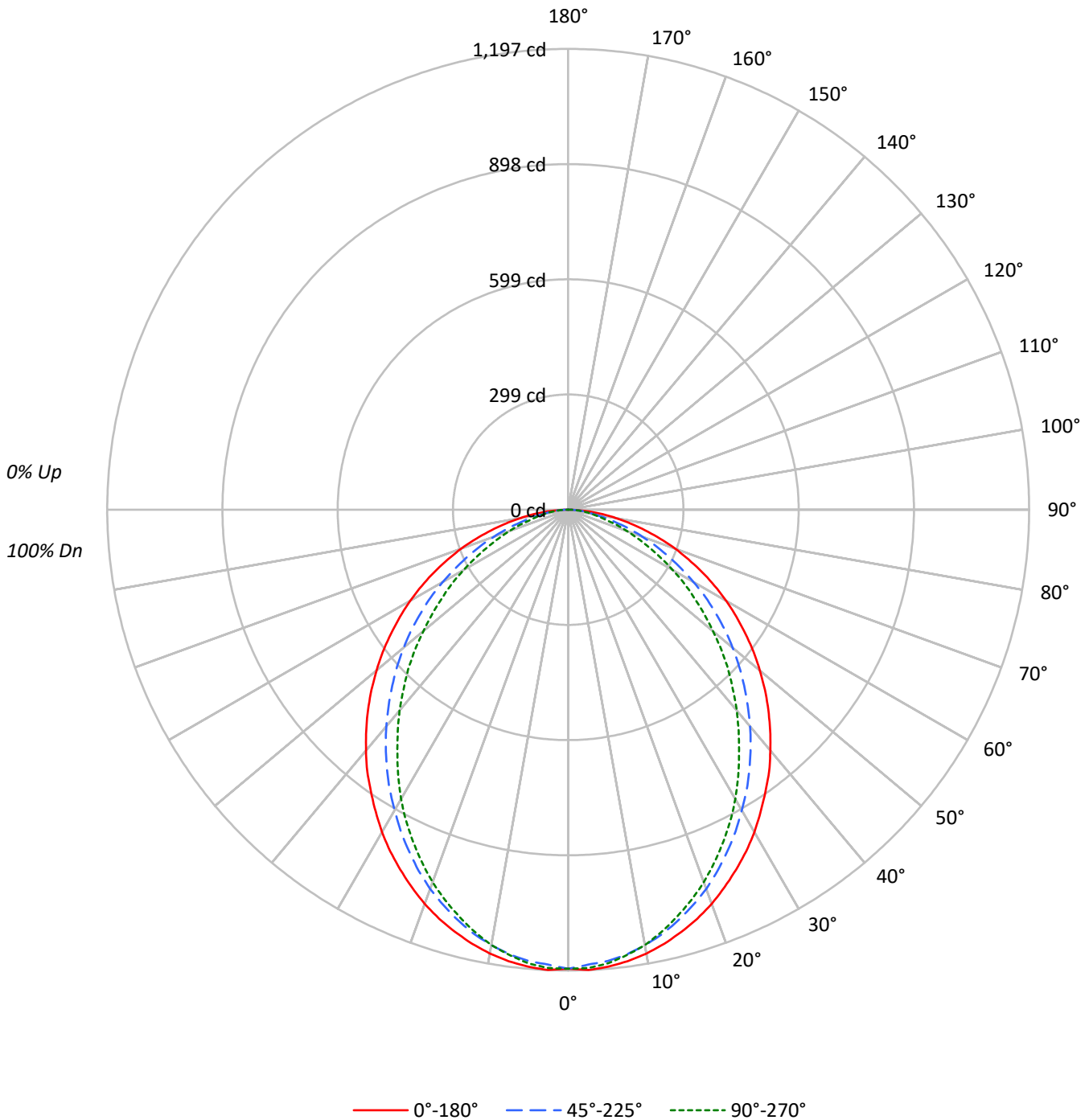
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2811.9 lumens  
Efficiency: N/A  
Efficacy: 119.1 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.1 / 1.25  
Luminous Opening: Rectangular (W 0.31' 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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	101	97	107	103	99	96	98	95	93	95	92	90	91	89	87	85
2	100	92	86	80	97	90	84	79	87	82	78	84	79	76	81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	61
4	84	73	64	58	82	71	64	57	69	62	57	67	61	56	64	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	44	55	48	43	53	47	43	41
7	67	54	45	39	65	53	45	39	51	44	39	50	43	39	49	43	38	36
8	62	49	41	35	61	49	41	35	47	40	35	46	39	35	45	39	34	33
9	58	45	37	32	57	45	37	32	44	37	32	42	36	31	41	36	31	30
10	55	42	34	29	54	41	34	29	40	34	29	39	33	29	39	33	29	27

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

	0°	45°	90°
0°	10599	10599	10599
5°	10632	10499	10554
10°	10564	10366	10366
15°	10447	10163	10067
20°	10306	9914	9739
25°	10116	9598	9339
30°	9927	9250	8906
35°	9692	8910	8394
40°	9477	8526	7903
45°	9237	8119	7390
50°	8982	7704	6791
55°	8702	7228	6191
60°	8432	6681	5570
65°	8070	6034	4867
70°	7685	5328	4231
75°	7102	4444	3445
80°	6486	3471	3153
85°	5742	3325	3141

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 9237 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	112.1	4.0
10°-20°	313.2	11.1
20°-30°	454.1	16.2
30°-40°	517.6	18.4
40°-50°	503.6	17.9
50°-60°	423.1	15.0
60°-70°	294.7	10.5
70°-80°	152.2	5.4
80°-90°	41.1	1.5
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°	879.5	31.3
0°-40°	1397.1	49.7
0°-60°	2323.8	82.6
0°-90°	2811.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2811.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1192	1192	1192	1192	1192	
5°	1192	1188	1177	1185	1183	113
15°	1135	1126	1104	1103	1094	320
25°	1031	1012	979	964	952	475
35°	893	866	821	790	774	559
45°	735	700	646	605	588	567
55°	562	525	466	419	400	503
65°	384	347	287	246	231	380
75°	207	175	129	108	100	220
85°	56	36	33	31	31	64
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1192.4	1192.4	1192.4	1192.4	1192.4
2.5°	1196.8	1193.3	1182.8	1192.4	1191.6
5°	1191.6	1188.0	1176.6	1185.4	1182.8
7.5°	1182.8	1178.4	1165.2	1171.3	1166.9
10°	1170.4	1166.0	1148.4	1152.8	1148.4
12.5°	1154.6	1148.4	1129.1	1130.0	1122.9
15°	1135.2	1126.4	1104.4	1102.7	1093.9
17.5°	1114.1	1102.7	1077.2	1072.8	1063.1
20°	1089.5	1075.4	1048.1	1038.4	1029.6
22.5°	1061.3	1044.6	1014.7	1003.2	991.8
25°	1031.4	1012.0	978.6	964.5	952.2
27.5°	1000.6	977.7	941.6	924.0	911.7
30°	967.2	940.8	901.2	880.9	867.7
32.5°	930.2	903.8	862.4	837.8	821.1
35°	893.2	866.0	821.1	790.3	773.5
37.5°	857.2	826.4	777.9	746.3	726.9
40°	816.7	784.1	734.8	698.7	681.1
42.5°	776.2	742.7	689.9	652.1	632.7
45°	734.8	699.6	645.9	604.6	587.9
47.5°	692.6	657.4	601.9	558.8	539.5
50°	649.5	614.3	557.1	509.5	491.1
52.5°	607.2	570.3	513.1	464.7	445.3
55°	561.5	525.4	466.4	418.9	399.5
57.5°	517.5	479.6	422.4	374.0	358.2
60°	474.3	436.5	375.8	329.1	313.3
62.5°	428.6	390.7	330.9	286.0	271.9
65°	383.7	346.7	286.9	245.5	231.4
67.5°	337.9	304.5	246.4	206.8	195.4
70°	295.7	257.8	205.0	170.7	162.8
72.5°	250.8	217.4	166.3	138.2	132.0
75°	206.8	175.1	129.4	108.2	100.3
77.5°	166.3	135.5	97.7	80.1	80.1
80°	126.7	99.4	67.8	63.4	61.6
82.5°	89.8	64.2	50.2	46.6	45.8
85°	56.3	36.1	32.6	30.8	30.8
87.5°	27.3	16.7	16.7	15.8	15.8
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	19.65	21.23	20.02	21.54	21.86	17.76	19.33	18.12	19.65	19.96
	3H	21.47	22.89	21.85	23.21	23.58	19.02	20.44	19.40	20.77	21.13
	4H	22.15	23.49	22.55	23.83	24.21	19.42	20.75	19.81	21.10	21.47
	6H	22.67	23.90	23.08	24.26	24.66	19.69	20.93	20.11	21.29	21.68
	8H	22.84	24.01	23.26	24.40	24.80	19.79	20.97	20.22	21.36	21.76
	12H	22.95	24.08	23.38	24.46	24.89	19.87	21.00	20.30	21.38	21.81
4H	2H	20.01	21.34	20.40	21.69	22.06	18.46	19.79	18.86	20.14	20.52
	3H	22.02	23.14	22.43	23.53	23.93	19.91	21.02	20.32	21.42	21.82
	4H	22.83	23.84	23.27	24.25	24.69	20.39	21.39	20.82	21.80	22.24
	6H	23.48	24.35	23.93	24.79	25.25	20.75	21.63	21.21	22.07	22.53
	8H	23.69	24.51	24.15	24.95	25.42	20.89	21.71	21.35	22.15	22.62
	12H	23.86	24.59	24.34	25.07	25.54	21.01	21.74	21.49	22.22	22.69
8H	4H	22.94	23.76	23.40	24.20	24.67	20.72	21.54	21.18	21.98	22.45
	6H	23.66	24.34	24.16	24.83	25.31	21.17	21.85	21.67	22.34	22.81
	8H	23.94	24.54	24.45	25.05	25.54	21.37	21.97	21.88	22.48	22.97
	12H	24.17	24.70	24.67	25.19	25.76	21.55	22.09	22.06	22.58	23.14
12H	4H	22.93	23.66	23.41	24.14	24.61	20.77	21.50	21.25	21.97	22.44
	6H	23.66	24.27	24.17	24.77	25.26	21.23	21.84	21.75	22.35	22.84
	8H	23.97	24.51	24.48	25.00	25.56	21.48	22.02	21.99	22.51	23.07