

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: P243573

Luminaire Tested: S124RDRP-H795D840-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243573  
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-H795D840-X4F0-XX-UDD-F-W  
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

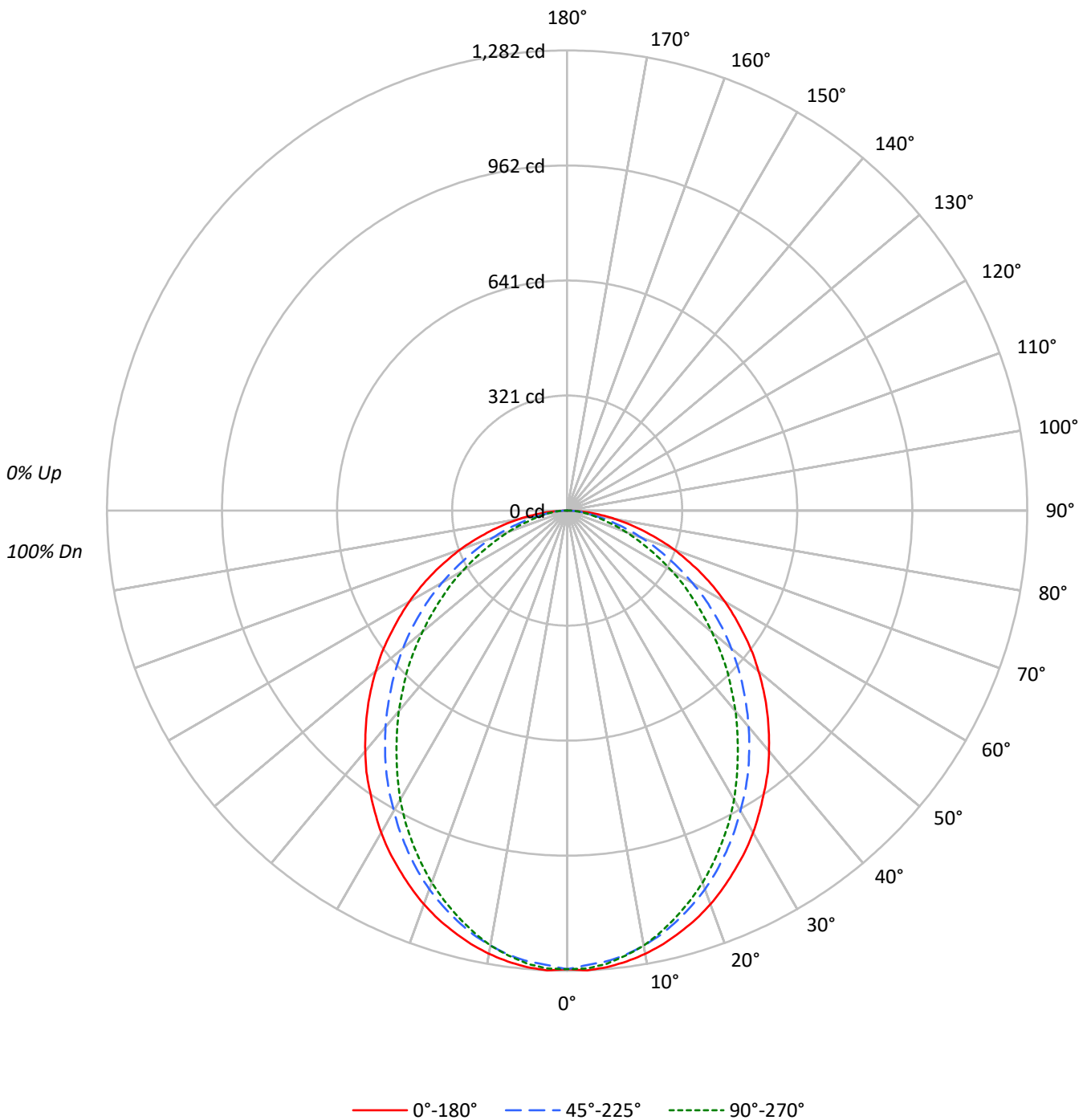
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3012.7 lumens  
Efficiency: N/A  
Efficacy: 127.7 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

TEST NUMBER: P243573

CATALOG NUMBER: S124RDRP-H795D840-X4F0-XX-UDD-F-W

### 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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	109	105	101	97	107	103	99	96	98	95	93	95	92	90	91	89	87	85					85			
2	100	92	86	80	97	90	84	79	87	82	78	84	79	76	81	77	74	72					72			
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	61					61			
4	84	73	64	58	82	71	64	57	69	62	57	67	61	56	64	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	44	55	48	43	53	47	43	41					41			
7	67	54	45	39	65	53	45	39	51	44	39	50	43	39	49	43	38	36					36			
8	62	49	41	35	61	49	41	35	47	40	35	46	39	35	45	39	34	33					33			
9	58	45	37	32	57	45	37	32	44	37	32	42	36	31	41	36	31	30					30			
10	55	42	34	29	54	41	34	29	40	34	29	39	33	29	39	33	29	27					27			

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

	0°	45°	90°
0°	11356	11356	11356
5°	11392	11248	11307
10°	11319	11107	11107
15°	11193	10889	10785
20°	11042	10623	10436
25°	10839	10284	10006
30°	10636	9910	9542
35°	10385	9546	8994
40°	10153	9136	8468
45°	9897	8700	7918
50°	9623	8253	7275
55°	9323	7744	6634
60°	9035	7157	5968
65°	8647	6466	5216
70°	8233	5710	4533
75°	7611	4760	3692
80°	6951	3716	3378
85°	6150	3559	3366

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 9897 cd/sqm



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CATALOG NUMBER: S124RDRP-H795D840-X4F0-XX-UDD-F-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	120.2	4.0
10°-20°	335.5	11.1
20°-30°	486.6	16.2
30°-40°	554.6	18.4
40°-50°	539.6	17.9
50°-60°	453.3	15.0
60°-70°	315.8	10.5
70°-80°	163.1	5.4
80°-90°	44.1	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°	942.3	31.3
0°-40°	1496.9	49.7
0°-60°	2489.7	82.6
0°-90°	3012.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3012.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1278	1278	1278	1278	1278	
5°	1277	1273	1261	1270	1267	121
15°	1216	1207	1183	1181	1172	343
25°	1105	1084	1048	1033	1020	509
35°	957	928	880	847	829	599
45°	787	750	692	648	630	607
55°	602	563	500	449	428	539
65°	411	372	307	263	248	407
75°	222	188	139	116	108	236
85°	60	39	35	33	33	69
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1277.6	1277.6	1277.6	1277.6	1277.6
2.5°	1282.3	1278.6	1267.2	1277.6	1276.7
5°	1276.7	1272.9	1260.6	1270.1	1267.2
7.5°	1267.2	1262.5	1248.4	1255.0	1250.3
10°	1254.0	1249.3	1230.5	1235.2	1230.5
12.5°	1237.1	1230.5	1209.7	1210.7	1203.1
15°	1216.3	1206.9	1183.3	1181.4	1172.0
17.5°	1193.7	1181.4	1154.1	1149.4	1139.0
20°	1167.3	1152.2	1123.0	1112.6	1103.2
22.5°	1137.1	1119.2	1087.2	1074.9	1062.6
25°	1105.1	1084.3	1048.5	1033.4	1020.2
27.5°	1072.1	1047.6	1008.9	990.0	976.8
30°	1036.2	1007.9	965.5	943.8	929.7
32.5°	996.6	968.3	924.0	897.6	879.7
35°	957.0	927.8	879.7	846.7	828.8
37.5°	918.4	885.4	833.5	799.6	778.8
40°	875.0	840.1	787.3	748.7	729.8
42.5°	831.6	795.8	739.2	698.7	677.9
45°	787.3	749.6	692.1	647.8	629.9
47.5°	742.1	704.3	644.9	598.7	578.0
50°	695.9	658.1	596.8	545.9	526.1
52.5°	650.6	611.0	549.7	497.8	477.1
55°	601.6	562.9	499.7	448.8	428.1
57.5°	554.4	513.9	452.6	400.7	383.8
60°	508.2	467.7	402.6	352.6	335.7
62.5°	459.2	418.6	354.5	306.4	291.4
65°	411.1	371.5	307.4	263.1	248.0
67.5°	362.1	326.2	264.0	221.6	209.3
70°	316.8	276.3	219.7	182.9	174.4
72.5°	268.7	232.9	178.2	148.0	141.4
75°	221.6	187.6	138.6	116.0	107.5
77.5°	178.2	145.2	104.7	85.8	85.8
80°	135.8	106.5	72.6	67.9	66.0
82.5°	96.2	68.8	53.7	50.0	49.0
85°	60.3	38.7	34.9	33.0	33.0
87.5°	29.2	17.9	17.9	17.0	17.0
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	19.89	21.47	20.26	21.78	22.10	18.00	19.57	18.36	19.89	20.20
	3H	21.71	23.13	22.09	23.45	23.82	19.26	20.68	19.64	21.00	21.37
	4H	22.39	23.73	22.79	24.07	24.45	19.66	20.99	20.05	21.34	21.71
	6H	22.91	24.14	23.32	24.51	24.90	19.93	21.17	20.34	21.53	21.92
	8H	23.08	24.25	23.50	24.64	25.04	20.03	21.21	20.46	21.60	22.00
	12H	23.19	24.32	23.62	24.70	25.13	20.11	21.24	20.54	21.62	22.05
4H	2H	20.25	21.58	20.64	21.93	22.30	18.70	20.03	19.10	20.38	20.76
	3H	22.26	23.38	22.67	23.77	24.17	20.15	21.26	20.56	21.66	22.06
	4H	23.07	24.08	23.51	24.49	24.93	20.63	21.63	21.06	22.04	22.48
	6H	23.72	24.59	24.17	25.03	25.49	20.99	21.87	21.45	22.31	22.77
	8H	23.93	24.75	24.39	25.19	25.66	21.13	21.95	21.59	22.39	22.86
	12H	24.10	24.83	24.58	25.31	25.78	21.25	21.98	21.73	22.46	22.93
8H	4H	23.18	24.00	23.64	24.44	24.91	20.96	21.78	21.42	22.22	22.69
	6H	23.90	24.58	24.40	25.07	25.55	21.41	22.09	21.91	22.58	23.05
	8H	24.18	24.78	24.69	25.29	25.78	21.61	22.21	22.12	22.72	23.21
	12H	24.41	24.94	24.91	25.43	26.00	21.79	22.33	22.30	22.82	23.38
12H	4H	23.17	23.90	23.65	24.38	24.85	21.01	21.74	21.49	22.21	22.68
	6H	23.90	24.51	24.41	25.01	25.50	21.47	22.08	21.99	22.59	23.08
	8H	24.21	24.75	24.72	25.24	25.80	21.72	22.26	22.23	22.75	23.31