

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: P243527

Luminaire Tested: S124DRP-H1195D927-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243527  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-55)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124DRP-H1195D927-X4F0-XX-UDD-D-W  
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

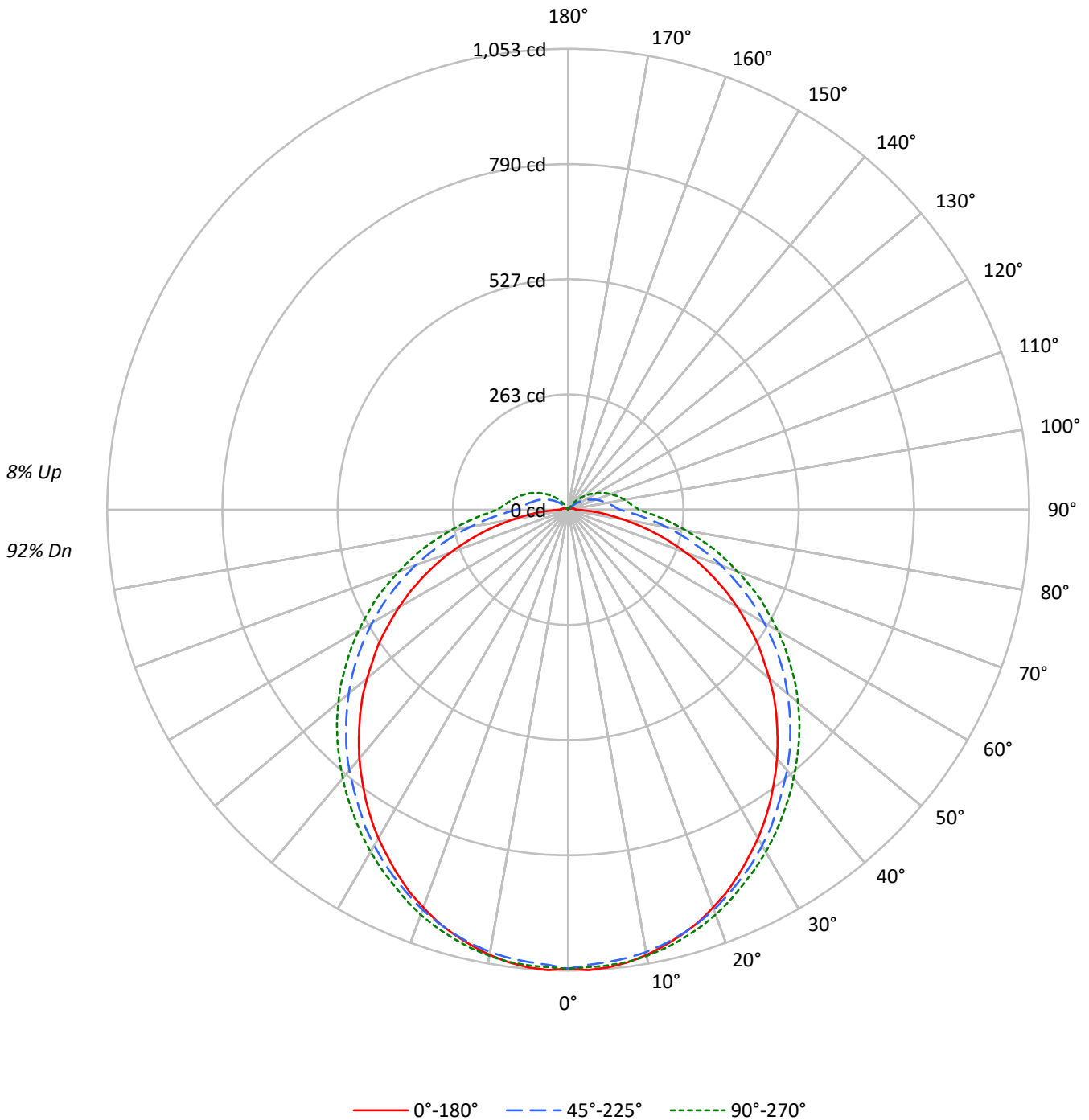
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3584.2 lumens  
Efficiency: N/A  
Efficacy: 95.1 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')  
CIE Type: Direct  
  
Input Watts (W): 37.7  
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	117	117	117	117	114	114	114	114	107	107	107	101	101	101	95	95	95	92
1	105	100	95	91	102	97	93	89	91	88	84	86	83	80	81	79	77	74
2	95	86	79	73	92	84	77	71	79	73	68	74	70	66	70	67	63	60
3	86	75	67	60	83	73	65	59	69	62	57	65	60	55	62	57	53	50
4	79	66	57	50	76	65	56	49	61	54	48	58	52	46	55	49	45	43
5	72	59	50	43	70	58	49	42	55	47	41	52	45	40	49	43	39	37
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	44	39	34	32
7	62	48	39	33	60	47	38	32	45	37	32	43	36	31	41	35	30	28
8	58	44	35	29	56	43	35	29	41	33	28	39	32	28	37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	29	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	22	32	26	22	20

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

	0°	45°	90°
0°	9321	9321	9321
5°	9349	9094	9114
10°	9289	8942	8924
15°	9196	8761	8709
20°	9078	8567	8493
25°	8938	8344	8243
30°	8789	8136	8028
35°	8625	7905	7805
40°	8458	7708	7597
45°	8282	7494	7399
50°	8083	7278	7191
55°	7907	7049	6953
60°	7658	6794	6721
65°	7371	6508	6486
70°	7028	6183	6151
75°	6483	5782	5908
80°	5744	5398	5563
85°	5199	5086	5362

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8282 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	99.3	2.8
10°-20°	284.6	7.9
20°-30°	430.8	12.0
30°-40°	521.7	14.6
40°-50°	551.8	15.4
50°-60°	519.8	14.5
60°-70°	432.0	12.1
70°-80°	303.6	8.5
80°-90°	171.0	4.8
90°-100°	101.5	2.8
100°-110°	75.1	2.1
110°-120°	50.1	1.4
120°-130°	28.3	0.8
130°-140°	12.1	0.3
140°-150°	2.3	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	814.8	22.7
0°-40°	1336.5	37.3
0°-60°	2408.2	67.2
0°-90°	3314.8	92.5
90°-120°	226.7	6.3
90°-150°	269.4	7.5
90°-180°	269.0	7.5
0°-180°	3584.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1049	1049	1049	1049	1049	
5°	1050	1045	1037	1046	1045	100
15°	1005	1007	1004	1015	1014	283
25°	920	928	932	945	945	424
35°	807	820	832	850	854	505
45°	673	694	718	739	746	519
55°	526	554	587	613	620	469
65°	367	403	445	472	485	363
75°	204	247	296	330	343	216
85°	64	112	166	202	213	65
90°	19	66	118	150	162	13
95°	16	54	102	135	144	12
105°	11	34	78	107	117	12
115°	8	18	55	80	90	7
125°	4	3	32	55	62	4
135°	2	2	10	29	36	2
145°	1	0	0	7	11	1
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1048.6	1048.6	1048.6	1048.6	1048.6
2.5°	1053.0	1049.7	1040.8	1047.4	1046.3
5°	1049.7	1045.2	1037.4	1046.3	1045.2
7.5°	1043.0	1039.6	1033.0	1043.0	1041.9
10°	1033.0	1030.7	1026.3	1035.2	1035.2
12.5°	1019.6	1019.6	1016.2	1026.3	1026.3
15°	1005.1	1007.3	1004.0	1015.1	1014.0
17.5°	988.4	990.6	989.5	1000.6	1000.6
20°	967.2	970.6	972.8	985.0	985.0
22.5°	946.0	950.5	952.7	966.1	966.1
25°	920.4	928.2	931.6	944.9	944.9
27.5°	893.7	903.7	910.4	922.6	924.9
30°	866.9	878.1	885.9	899.2	902.6
32.5°	838.0	849.1	861.4	874.7	879.2
35°	806.8	820.1	832.4	850.2	853.6
37.5°	774.4	790.0	804.5	823.5	827.9
40°	742.1	761.1	777.8	795.6	801.2
42.5°	707.6	726.5	748.8	767.8	773.3
45°	673.0	694.2	717.6	738.8	745.5
47.5°	638.5	660.8	686.4	708.7	716.5
50°	599.5	624.0	654.1	676.4	685.3
52.5°	561.6	588.3	621.8	644.1	654.1
55°	525.9	553.8	587.2	612.9	619.5
57.5°	484.7	515.9	552.7	580.5	587.2
60°	446.8	478.0	517.0	544.9	552.7
62.5°	407.8	441.3	481.4	509.2	517.0
65°	366.6	403.4	444.6	472.5	484.7
67.5°	326.5	363.3	406.7	437.9	447.9
70°	286.4	324.3	371.1	402.3	410.1
72.5°	244.0	285.3	333.2	365.5	376.6
75°	203.9	247.4	296.4	329.8	343.2
77.5°	164.9	210.6	261.9	296.4	305.3
80°	125.9	176.1	227.3	261.9	273.0
82.5°	94.7	141.5	195.0	231.8	240.7
85°	63.5	112.5	166.0	201.7	212.8
87.5°	37.9	88.0	139.3	172.7	183.9
90°	18.9	65.7	118.1	150.4	161.6
92.5°	16.7	59.1	109.2	141.5	152.7
95°	15.6	53.5	102.5	134.8	143.7
97.5°	14.5	49.0	95.8	127.0	137.1
100°	13.4	43.5	90.3	120.3	130.4
102.5°	12.3	39.0	83.6	113.7	123.7
105°	11.1	34.5	78.0	107.0	117.0
107.5°	10.0	30.1	72.4	100.3	110.3
110°	8.9	25.6	66.9	93.6	103.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	7.8	22.3	60.2	86.9	96.9
115°	7.8	17.8	54.6	80.2	90.3
117.5°	6.7	13.4	49.0	73.5	82.5
120°	6.7	10.0	43.5	66.9	75.8
122.5°	5.6	6.7	37.9	61.3	69.1
125°	4.5	3.3	32.3	54.6	62.4
127.5°	4.5	3.3	26.7	47.9	55.7
130°	3.3	3.3	21.2	41.2	49.0
132.5°	3.3	2.2	15.6	35.7	42.3
135°	2.2	2.2	10.0	29.0	35.7
137.5°	2.2	1.1	6.7	23.4	30.1
140°	2.2	1.1	2.2	17.8	23.4
142.5°	1.1	1.1	0.0	12.3	16.7
145°	1.1	0.0	0.0	6.7	11.1
147.5°	1.1	0.0	0.0	1.1	5.6
150°	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	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	17.54	19.07	18.02	19.54	20.03	19.13	20.65	19.60	21.12	21.61
	3H	19.19	20.58	19.68	21.06	21.60	21.44	22.83	21.93	23.30	23.84
	4H	19.77	21.08	20.28	21.58	22.13	22.51	23.82	23.02	24.32	24.87
	6H	20.15	21.37	20.67	21.88	22.45	23.55	24.78	24.08	25.29	25.85
	8H	20.26	21.43	20.79	21.96	22.53	24.07	25.24	24.60	25.77	26.35
	12H	20.32	21.45	20.86	21.97	22.57	24.62	25.75	25.16	26.27	26.87
4H	2H	18.40	19.72	18.91	20.21	20.76	19.63	20.94	20.14	21.44	21.99
	3H	20.29	21.41	20.81	21.95	22.52	22.16	23.28	22.68	23.82	24.39
	4H	21.00	22.03	21.54	22.57	23.18	23.39	24.41	23.93	24.96	25.56
	6H	21.52	22.42	22.08	22.99	23.61	24.61	25.51	25.17	26.08	26.70
	8H	21.67	22.52	22.24	23.09	23.73	25.22	26.07	25.79	26.64	27.27
	12H	21.78	22.55	22.37	23.15	23.78	25.88	26.65	26.47	27.25	27.89
8H	4H	21.58	22.43	22.15	23.00	23.64	23.64	24.49	24.21	25.06	25.69
	6H	22.27	22.99	22.88	23.61	24.24	25.02	25.74	25.63	26.36	26.99
	8H	22.53	23.17	23.14	23.80	24.45	25.76	26.41	26.38	27.03	27.68
	12H	22.71	23.29	23.33	23.90	24.62	26.59	27.17	27.20	27.78	28.50
12H	4H	21.72	22.49	22.31	23.09	23.72	23.66	24.43	24.25	25.03	25.66
	6H	22.49	23.14	23.10	23.76	24.41	25.07	25.72	25.69	26.35	27.00
	8H	22.83	23.40	23.44	24.01	24.73	25.88	26.46	26.49	27.07	27.79