

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: P243526

Luminaire Tested: S124DRP-H1020D927-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243526
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-H1020D927-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

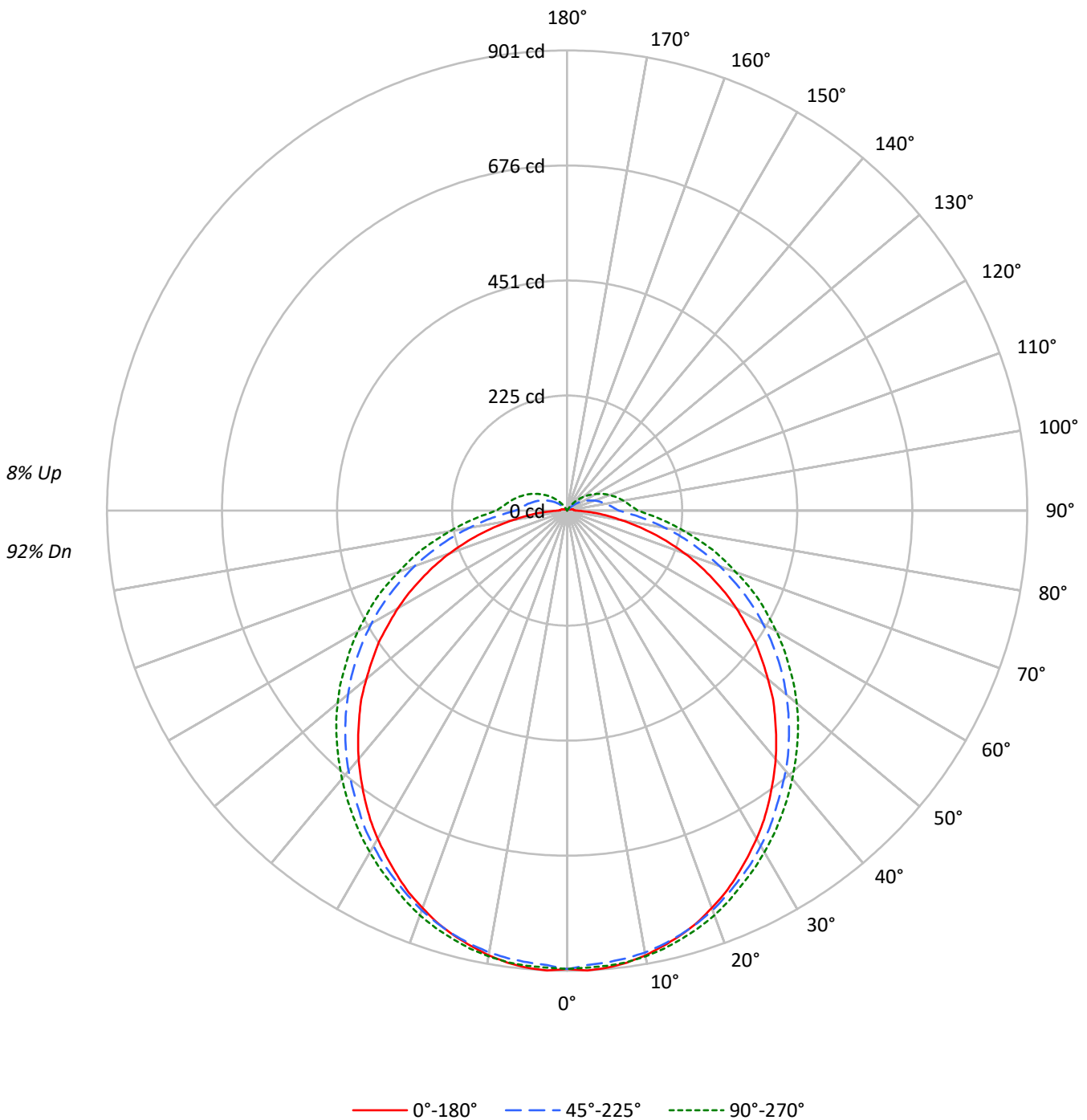
Lumens per Lamp: N/A
Luminaire Lumens: 3068.2 lumens
Efficiency: N/A
Efficacy: 97.4 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 31.5
Input Voltage (V): 120
Input Current (A_{in}): 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°	7979	7979	7979
5°	8002	7785	7801
10°	7951	7654	7639
15°	7872	7499	7455
20°	7772	7333	7271
25°	7651	7142	7056
30°	7524	6964	6872
35°	7383	6766	6682
40°	7241	6598	6503
45°	7090	6415	6333
50°	6920	6230	6156
55°	6769	6034	5952
60°	6556	5816	5753
65°	6309	5571	5552
70°	6015	5292	5265
75°	5551	4949	5057
80°	4918	4621	4762
85°	4454	4353	4591

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7090 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.0	2.8
10°-20°	243.7	7.9
20°-30°	368.8	12.0
30°-40°	446.6	14.6
40°-50°	472.4	15.4
50°-60°	445.0	14.5
60°-70°	369.8	12.1
70°-80°	259.9	8.5
80°-90°	146.4	4.8
90°-100°	86.9	2.8
100°-110°	64.3	2.1
110°-120°	42.9	1.4
120°-130°	24.2	0.8
130°-140°	10.4	0.3
140°-150°	2.0	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	697.5	22.7
0°-40°	1144.1	37.3
0°-60°	2061.4	67.2
0°-90°	2837.5	92.5
90°-120°	194.1	6.3
90°-150°	230.7	7.5
90°-180°	231.0	7.5
0°-180°	3068.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	898	898	898	898	898	
5°	898	895	888	896	895	85
15°	860	862	859	869	868	243
25°	788	795	797	809	809	363
35°	691	702	712	728	731	432
45°	576	594	614	632	638	445
55°	450	474	503	525	530	401
65°	314	345	381	404	415	311
75°	175	212	254	282	294	185
85°	54	96	142	173	182	56
90°	16	56	101	129	138	11
95°	13	46	88	115	123	11
105°	10	30	67	92	100	10
115°	7	15	47	69	77	6
125°	4	3	28	47	53	4
135°	2	2	9	25	30	2
145°	1	0	0	6	10	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°	897.6	897.6	897.6	897.6	897.6
2.5°	901.4	898.5	890.9	896.6	895.7
5°	898.5	894.7	888.0	895.7	894.7
7.5°	892.8	890.0	884.2	892.8	891.9
10°	884.2	882.3	878.5	886.1	886.1
12.5°	872.8	872.8	869.9	878.5	878.5
15°	860.4	862.3	859.4	869.0	868.0
17.5°	846.1	848.0	847.0	856.6	856.6
20°	828.0	830.8	832.7	843.2	843.2
22.5°	809.8	813.6	815.6	827.0	827.0
25°	787.9	794.6	797.4	808.9	808.9
27.5°	765.0	773.6	779.3	789.8	791.7
30°	742.1	751.6	758.3	769.8	772.6
32.5°	717.3	726.8	737.3	748.8	752.6
35°	690.6	702.0	712.5	727.8	730.7
37.5°	662.9	676.3	688.7	704.9	708.7
40°	635.3	651.5	665.8	681.1	685.8
42.5°	605.7	621.9	641.0	657.2	662.0
45°	576.1	594.3	614.3	632.4	638.1
47.5°	546.6	565.6	587.6	606.7	613.3
50°	513.2	534.2	559.9	579.0	586.6
52.5°	480.7	503.6	532.3	551.3	559.9
55°	450.2	474.1	502.7	524.6	530.3
57.5°	414.9	441.6	473.1	497.0	502.7
60°	382.5	409.2	442.6	466.4	473.1
62.5°	349.1	377.7	412.1	435.9	442.6
65°	313.8	345.3	380.6	404.4	414.9
67.5°	279.5	311.0	348.2	374.9	383.5
70°	245.1	277.6	317.6	344.3	351.0
72.5°	208.9	244.2	285.2	312.9	322.4
75°	174.6	211.8	253.7	282.3	293.8
77.5°	141.2	180.3	224.2	253.7	261.4
80°	107.8	150.7	194.6	224.2	233.7
82.5°	81.1	121.1	166.9	198.4	206.0
85°	54.4	96.3	142.1	172.6	182.2
87.5°	32.4	75.4	119.2	147.8	157.4
90°	16.2	56.3	101.1	128.8	138.3
92.5°	14.3	50.6	93.5	121.1	130.7
95°	13.4	45.8	87.8	115.4	123.0
97.5°	12.4	42.0	82.0	108.7	117.3
100°	11.4	37.2	77.3	103.0	111.6
102.5°	10.5	33.4	71.5	97.3	105.9
105°	9.5	29.6	66.8	91.6	100.2
107.5°	8.6	25.8	62.0	85.8	94.4
110°	7.6	21.9	57.2	80.1	88.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	6.7	19.1	51.5	74.4	83.0
115°	6.7	15.3	46.7	68.7	77.3
117.5°	5.7	11.4	42.0	63.0	70.6
120°	5.7	8.6	37.2	57.2	64.9
122.5°	4.8	5.7	32.4	52.5	59.1
125°	3.8	2.9	27.7	46.7	53.4
127.5°	3.8	2.9	22.9	41.0	47.7
130°	2.9	2.9	18.1	35.3	42.0
132.5°	2.9	1.9	13.4	30.5	36.2
135°	1.9	1.9	8.6	24.8	30.5
137.5°	1.9	1.0	5.7	20.0	25.8
140°	1.9	1.0	1.9	15.3	20.0
142.5°	1.0	1.0	0.0	10.5	14.3
145°	1.0	0.0	0.0	5.7	9.5
147.5°	1.0	0.0	0.0	1.0	4.8
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	17.00	18.53	17.48	19.00	19.49	18.59	20.11	19.06	20.58	21.07
	3H	18.65	20.04	19.14	20.52	21.06	20.90	22.29	21.39	22.76	23.30
	4H	19.23	20.54	19.74	21.04	21.59	21.97	23.28	22.48	23.78	24.33
	6H	19.61	20.83	20.13	21.34	21.91	23.01	24.24	23.54	24.75	25.31
	8H	19.72	20.89	20.25	21.42	21.99	23.53	24.70	24.06	25.23	25.81
	12H	19.78	20.91	20.32	21.43	22.03	24.08	25.21	24.62	25.73	26.33
4H	2H	17.86	19.18	18.37	19.67	20.22	19.09	20.41	19.60	20.90	21.45
	3H	19.75	20.87	20.27	21.41	21.98	21.62	22.74	22.14	23.28	23.85
	4H	20.46	21.49	21.00	22.03	22.64	22.85	23.87	23.39	24.42	25.02
	6H	20.98	21.88	21.54	22.45	23.07	24.07	24.97	24.63	25.55	26.16
	8H	21.13	21.98	21.70	22.55	23.19	24.68	25.53	25.25	26.10	26.73
	12H	21.24	22.01	21.83	22.61	23.24	25.34	26.11	25.93	26.71	27.35
8H	4H	21.04	21.89	21.61	22.46	23.09	23.10	23.95	23.67	24.52	25.15
	6H	21.73	22.45	22.34	23.07	23.70	24.48	25.20	25.09	25.82	26.45
	8H	21.99	22.63	22.60	23.26	23.91	25.22	25.87	25.84	26.49	27.14
	12H	22.17	22.75	22.79	23.36	24.08	26.05	26.63	26.66	27.24	27.96
12H	4H	21.18	21.95	21.77	22.55	23.18	23.12	23.89	23.71	24.49	25.12
	6H	21.95	22.60	22.56	23.22	23.87	24.53	25.18	25.15	25.81	26.46
	8H	22.29	22.86	22.90	23.47	24.19	25.34	25.92	25.95	26.53	27.25