

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: P242666

Luminaire Tested: S124DRP-S1020D927-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242666
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-16)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DRP-S1020D927-X4F0-XX-UDD-D-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

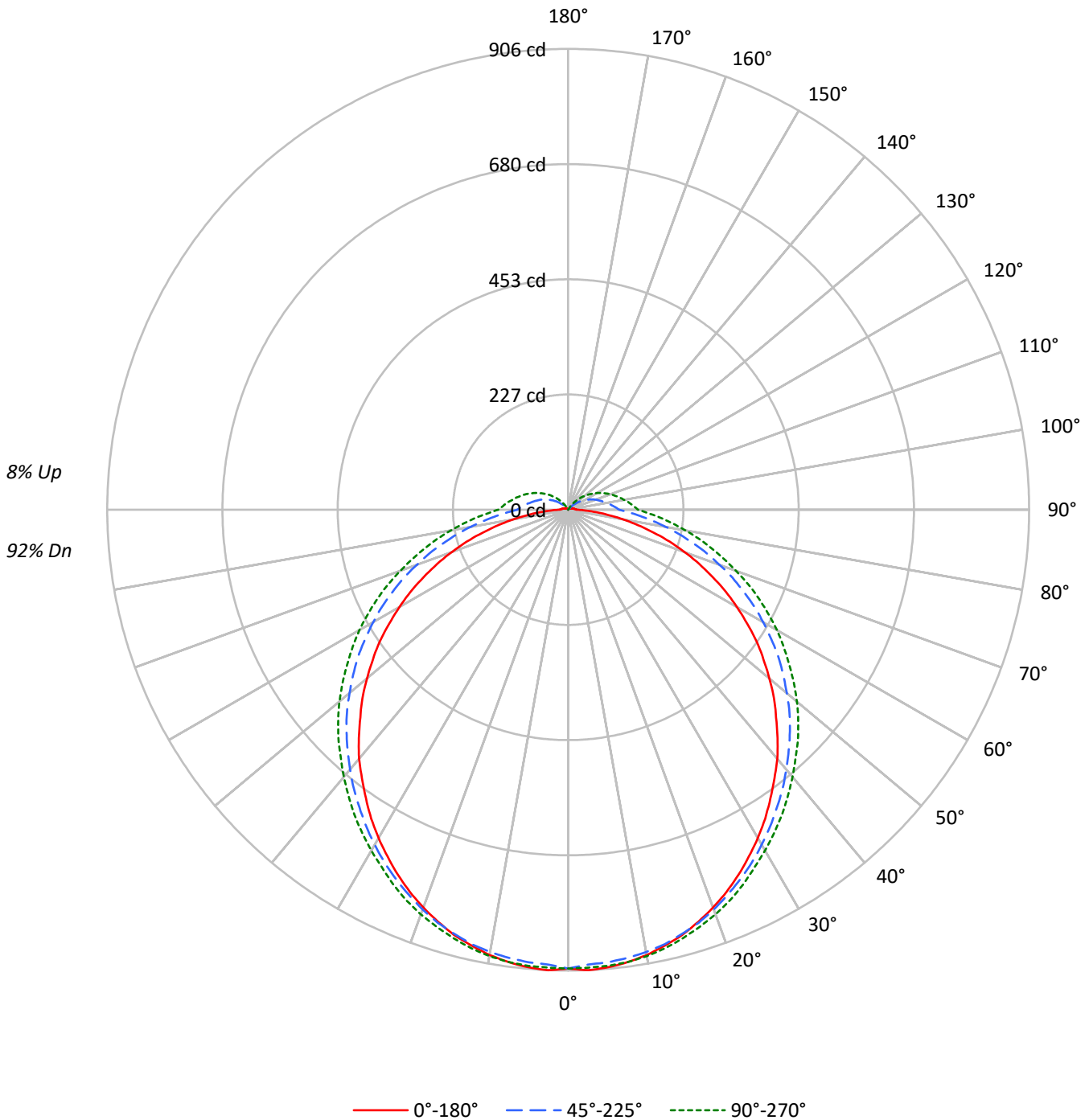
Lumens per Lamp: N/A
Luminaire Lumens: 3075.7 lumens
Efficiency: N/A
Efficacy: 88.4 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 34.8
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	87	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	47	55	49	45	43
5	73	59	50	43	70	58	49	42	55	47	41	52	45	40	49	44	39	37
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	45	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	38	30	25	36	29	25	34	29	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	23	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8019	8019	8019
5°	8043	7829	7848
10°	7994	7693	7681
15°	7922	7537	7488
20°	7813	7366	7300
25°	7691	7175	7094
30°	7558	6986	6883
35°	7408	6792	6697
40°	7289	6607	6504
45°	7111	6435	6337
50°	6960	6239	6159
55°	6805	6051	5953
60°	6563	5815	5762
65°	6297	5559	5529
70°	5975	5268	5257
75°	5526	4947	5007
80°	5023	4631	4756
85°	4380	4332	4581

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7111 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.5	2.8
10°-20°	244.9	8.0
20°-30°	370.3	12.0
30°-40°	448.0	14.6
40°-50°	473.6	15.4
50°-60°	445.7	14.5
60°-70°	369.9	12.0
70°-80°	259.6	8.4
80°-90°	146.3	4.8
90°-100°	87.1	2.8
100°-110°	64.5	2.1
110°-120°	43.3	1.4
120°-130°	24.4	0.8
130°-140°	10.5	0.3
140°-150°	2.1	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	700.7	22.8
0°-40°	1148.7	37.3
0°-60°	2068.0	67.2
0°-90°	2843.8	92.5
90°-120°	194.9	6.3
90°-150°	231.9	7.5
90°-180°	232.0	7.5
0°-180°	3075.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	902	902	902	902	902	
5°	903	900	893	901	900	86
15°	866	867	864	873	872	244
25°	792	798	801	812	813	365
35°	693	705	715	729	732	434
45°	578	597	616	633	638	447
55°	453	474	504	524	530	403
65°	313	346	380	405	413	310
75°	174	211	254	282	291	185
85°	54	96	141	172	182	56
90°	16	57	100	129	137	11
95°	13	46	88	115	124	10
105°	9	29	67	92	100	10
115°	6	15	48	70	77	6
125°	4	3	28	48	54	4
135°	2	2	9	25	31	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°	902.1	902.1	902.1	902.1	902.1
2.5°	906.2	903.1	895.1	902.1	901.1
5°	903.1	900.1	893.0	901.1	900.1
7.5°	897.1	895.1	889.0	898.1	897.1
10°	889.0	888.0	882.9	892.0	891.0
12.5°	877.9	877.9	874.9	882.9	882.9
15°	865.8	866.8	863.7	872.8	871.8
17.5°	849.6	852.6	851.6	860.7	859.7
20°	832.4	835.5	836.5	846.6	846.6
22.5°	813.2	817.3	819.3	829.4	831.4
25°	792.0	798.1	801.1	812.2	813.2
27.5°	768.8	777.9	781.9	792.0	793.0
30°	745.5	753.6	760.7	771.8	773.8
32.5°	720.3	730.4	738.5	751.6	753.6
35°	693.0	705.1	715.2	729.4	732.4
37.5°	665.7	679.9	692.0	706.1	709.2
40°	639.5	652.6	666.7	681.9	685.9
42.5°	609.2	624.3	641.5	658.7	661.7
45°	577.8	597.0	616.2	633.4	638.5
47.5°	548.6	567.7	590.0	607.1	613.2
50°	516.2	538.5	560.7	580.9	586.9
52.5°	483.9	506.1	532.4	552.6	558.7
55°	452.6	473.8	504.1	524.3	530.4
57.5°	417.2	443.5	472.8	497.0	502.1
60°	382.9	409.1	442.5	465.7	473.8
62.5°	349.5	378.8	412.2	435.4	443.5
65°	313.2	345.5	379.8	405.1	413.2
67.5°	278.8	313.2	349.5	374.8	382.9
70°	243.5	277.8	316.2	343.5	350.5
72.5°	209.1	244.5	285.9	312.2	320.2
75°	173.8	211.1	253.6	281.9	290.9
77.5°	140.4	179.8	224.3	252.6	262.7
80°	110.1	150.5	195.0	225.3	233.4
82.5°	79.8	122.2	166.7	198.0	207.1
85°	53.5	96.0	141.4	171.7	181.8
87.5°	33.3	74.8	119.2	148.5	157.6
90°	16.2	56.6	100.0	129.3	137.4
92.5°	15.2	50.5	94.0	122.2	130.3
95°	13.1	46.5	87.9	115.2	124.3
97.5°	12.1	41.4	82.8	109.1	118.2
100°	11.1	37.4	76.8	104.1	111.1
102.5°	11.1	33.3	71.7	98.0	106.1
105°	9.1	29.3	66.7	91.9	100.0
107.5°	9.1	26.3	61.6	86.9	94.0
110°	8.1	22.2	57.6	80.8	88.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	7.1	19.2	52.5	74.8	82.8
115°	6.1	15.2	47.5	69.7	76.8
117.5°	6.1	12.1	42.4	63.6	71.7
120°	5.1	8.1	37.4	57.6	65.7
122.5°	5.1	5.1	32.3	52.5	59.6
125°	4.0	3.0	28.3	47.5	53.5
127.5°	4.0	3.0	23.2	41.4	48.5
130°	3.0	2.0	18.2	36.4	42.4
132.5°	3.0	2.0	14.1	31.3	37.4
135°	2.0	2.0	9.1	25.3	31.3
137.5°	2.0	1.0	5.1	20.2	25.3
140°	2.0	1.0	2.0	15.2	20.2
142.5°	1.0	1.0	0.0	11.1	15.2
145°	1.0	0.0	0.0	6.1	10.1
147.5°	1.0	0.0	0.0	1.0	5.1
150°	1.0	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	17.02	18.55	17.50	19.02	19.51	18.58	20.10	19.05	20.57	21.06
	3H	18.66	20.05	19.15	20.53	21.07	20.88	22.27	21.37	22.75	23.29
	4H	19.23	20.55	19.74	21.04	21.59	21.94	23.26	22.45	23.75	24.30
	6H	19.61	20.84	20.14	21.34	21.91	23.00	24.22	23.52	24.73	25.30
	8H	19.72	20.89	20.25	21.42	22.00	23.52	24.69	24.05	25.22	25.79
	12H	19.78	20.90	20.32	21.43	22.03	24.07	25.19	24.61	25.72	26.32
4H	2H	17.87	19.19	18.38	19.68	20.23	19.08	20.39	19.59	20.88	21.44
	3H	19.75	20.87	20.28	21.41	21.98	21.60	22.72	22.13	23.26	23.83
	4H	20.46	21.48	21.00	22.03	22.63	22.82	23.85	23.37	24.39	25.00
	6H	20.97	21.88	21.54	22.45	23.07	24.05	24.96	24.62	25.53	26.15
	8H	21.13	21.98	21.70	22.55	23.18	24.67	25.51	25.23	26.09	26.72
	12H	21.23	22.00	21.82	22.60	23.24	25.33	26.10	25.92	26.70	27.33
8H	4H	21.04	21.89	21.61	22.46	23.09	23.08	23.93	23.65	24.50	25.13
	6H	21.73	22.45	22.33	23.06	23.70	24.47	25.19	25.07	25.80	26.44
	8H	21.98	22.63	22.60	23.25	23.90	25.21	25.86	25.82	26.48	27.13
	12H	22.17	22.74	22.78	23.36	24.07	26.04	26.61	26.65	27.22	27.94
12H	4H	21.17	21.94	21.76	22.54	23.18	23.09	23.86	23.69	24.46	25.10
	6H	21.94	22.59	22.56	23.21	23.87	24.52	25.17	25.13	25.79	26.44
	8H	22.28	22.86	22.90	23.47	24.19	25.33	25.90	25.94	26.52	27.23