

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: P243553

Luminaire Tested: S124DRP-H575D940-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243553
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-H575D940-X4F0-XX-UDD-D-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

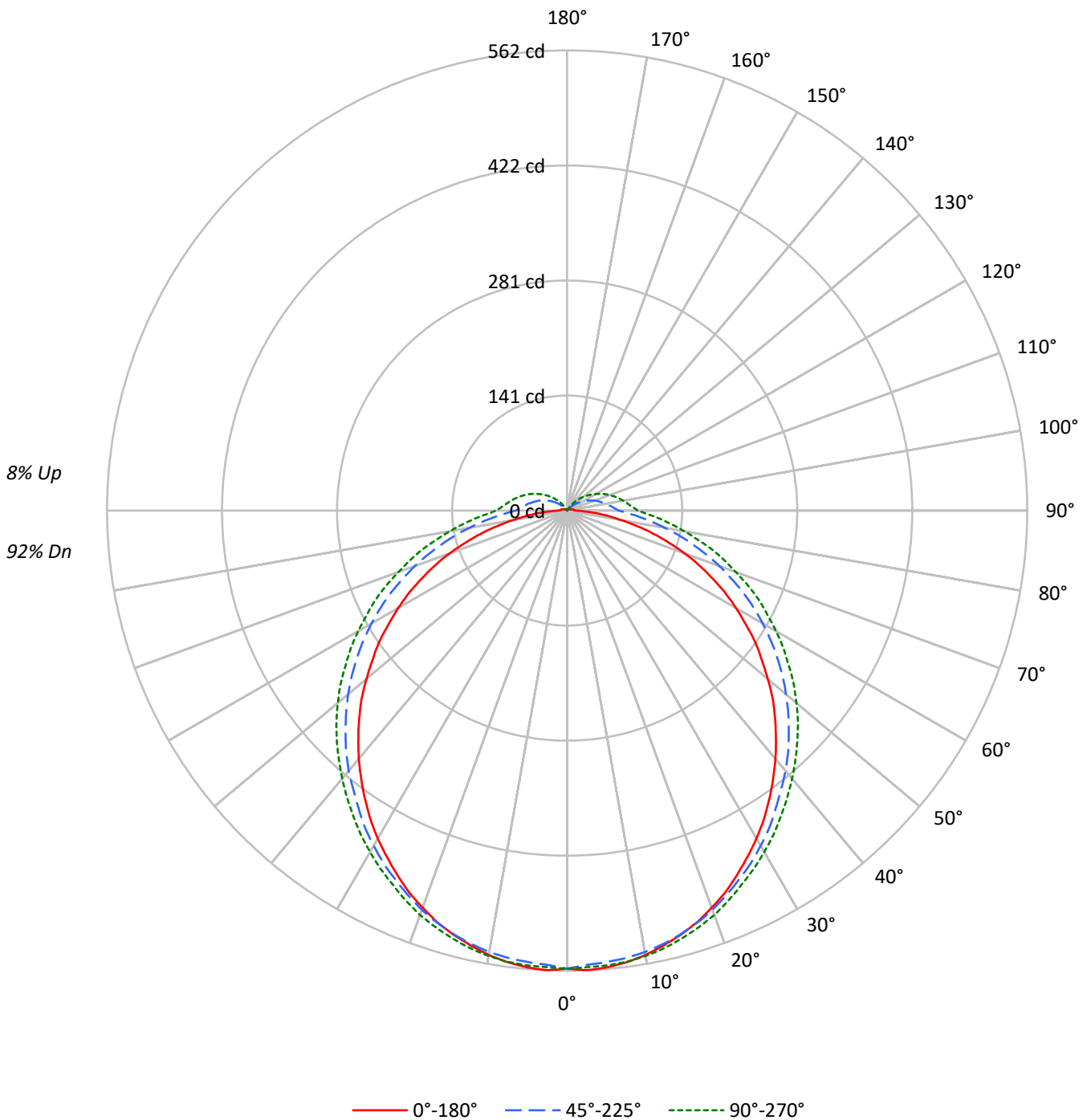
Lumens per Lamp: N/A
Luminaire Lumens: 1912.2 lumens
Efficiency: N/A
Efficacy: 111.2 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 17.2
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°	4972	4972	4972
5°	4987	4852	4862
10°	4955	4770	4761
15°	4906	4674	4647
20°	4843	4570	4531
25°	4768	4452	4397
30°	4689	4340	4283
35°	4601	4217	4164
40°	4512	4112	4053
45°	4419	3998	3947
50°	4312	3883	3837
55°	4219	3761	3709
60°	4086	3624	3586
65°	3933	3472	3460
70°	3750	3299	3282
75°	3459	3084	3152
80°	3066	2881	2967
85°	2775	2714	2860

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4419 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	53.0	2.8
10°-20°	151.9	7.9
20°-30°	229.9	12.0
30°-40°	278.3	14.6
40°-50°	294.4	15.4
50°-60°	277.3	14.5
60°-70°	230.5	12.1
70°-80°	162.0	8.5
80°-90°	91.2	4.8
90°-100°	54.1	2.8
100°-110°	40.1	2.1
110°-120°	26.7	1.4
120°-130°	15.1	0.8
130°-140°	6.5	0.3
140°-150°	1.2	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	434.7	22.7
0°-40°	713.0	37.3
0°-60°	1284.8	67.2
0°-90°	1768.5	92.5
90°-120°	121.0	6.3
90°-150°	143.8	7.5
90°-180°	144.0	7.5
0°-180°	1912.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	559	559	559	559	559	
5°	560	558	554	558	558	53
15°	536	537	536	542	541	151
25°	491	495	497	504	504	226
35°	430	438	444	454	455	269
45°	359	370	383	394	398	277
55°	281	296	313	327	330	250
65°	196	215	237	252	259	194
75°	109	132	158	176	183	115
85°	34	60	89	108	114	35
90°	10	35	63	80	86	7
95°	8	28	55	72	77	7
105°	6	18	42	57	62	6
115°	4	10	29	43	48	4
125°	2	2	17	29	33	2
135°	1	1	5	16	19	1
145°	1	0	0	4	6	0
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°	559.4	559.4	559.4	559.4	559.4
2.5°	561.8	560.0	555.3	558.8	558.2
5°	560.0	557.6	553.5	558.2	557.6
7.5°	556.4	554.7	551.1	556.4	555.8
10°	551.1	549.9	547.5	552.3	552.3
12.5°	544.0	544.0	542.2	547.5	547.5
15°	536.2	537.4	535.6	541.6	541.0
17.5°	527.3	528.5	527.9	533.8	533.8
20°	516.0	517.8	519.0	525.5	525.5
22.5°	504.7	507.1	508.3	515.4	515.4
25°	491.0	495.2	497.0	504.1	504.1
27.5°	476.8	482.1	485.7	492.2	493.4
30°	462.5	468.5	472.6	479.8	481.5
32.5°	447.1	453.0	459.5	466.7	469.1
35°	430.4	437.5	444.1	453.6	455.4
37.5°	413.2	421.5	429.2	439.3	441.7
40°	395.9	406.0	415.0	424.5	427.4
42.5°	377.5	387.6	399.5	409.6	412.6
45°	359.1	370.4	382.8	394.1	397.7
47.5°	340.6	352.5	366.2	378.1	382.3
50°	319.8	332.9	349.0	360.9	365.6
52.5°	299.6	313.9	331.7	343.6	349.0
55°	280.6	295.5	313.3	327.0	330.5
57.5°	258.6	275.2	294.9	309.7	313.3
60°	238.4	255.0	275.8	290.7	294.9
62.5°	217.6	235.4	256.8	271.7	275.8
65°	195.6	215.2	237.2	252.1	258.6
67.5°	174.2	193.8	217.0	233.6	239.0
70°	152.8	173.0	198.0	214.6	218.8
72.5°	130.2	152.2	177.8	195.0	200.9
75°	108.8	132.0	158.1	176.0	183.1
77.5°	88.0	112.4	139.7	158.1	162.9
80°	67.2	93.9	121.3	139.7	145.6
82.5°	50.5	75.5	104.0	123.7	128.4
85°	33.9	60.0	88.6	107.6	113.5
87.5°	20.2	47.0	74.3	92.1	98.1
90°	10.1	35.1	63.0	80.3	86.2
92.5°	8.9	31.5	58.3	75.5	81.4
95°	8.3	28.5	54.7	71.9	76.7
97.5°	7.7	26.2	51.1	67.8	73.1
100°	7.1	23.2	48.2	64.2	69.6
102.5°	6.5	20.8	44.6	60.6	66.0
105°	5.9	18.4	41.6	57.1	62.4
107.5°	5.4	16.1	38.6	53.5	58.9
110°	4.8	13.7	35.7	49.9	55.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	4.2	11.9	32.1	46.4	51.7
115°	4.2	9.5	29.1	42.8	48.2
117.5°	3.6	7.1	26.2	39.2	44.0
120°	3.6	5.4	23.2	35.7	40.4
122.5°	3.0	3.6	20.2	32.7	36.9
125°	2.4	1.8	17.2	29.1	33.3
127.5°	2.4	1.8	14.3	25.6	29.7
130°	1.8	1.8	11.3	22.0	26.2
132.5°	1.8	1.2	8.3	19.0	22.6
135°	1.2	1.2	5.4	15.5	19.0
137.5°	1.2	0.6	3.6	12.5	16.1
140°	1.2	0.6	1.2	9.5	12.5
142.5°	0.6	0.6	0.0	6.5	8.9
145°	0.6	0.0	0.0	3.6	5.9
147.5°	0.6	0.0	0.0	0.6	3.0
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	15.36	16.89	15.84	17.35	17.85	16.94	18.47	17.42	18.93	19.43
	3H	17.01	18.40	17.50	18.88	19.41	19.25	20.64	19.74	21.12	21.66
	4H	17.58	18.90	18.09	19.39	19.94	20.32	21.64	20.83	22.13	22.68
	6H	17.97	19.19	18.49	19.70	20.26	21.37	22.60	21.89	23.10	23.67
	8H	18.07	19.25	18.61	19.78	20.35	21.89	23.06	22.42	23.59	24.16
	12H	18.14	19.26	18.68	19.79	20.39	22.44	23.56	22.98	24.09	24.69
4H	2H	16.22	17.54	16.73	18.03	18.58	17.44	18.76	17.96	19.25	19.81
	3H	18.11	19.23	18.63	19.76	20.34	19.98	21.10	20.50	21.63	22.21
	4H	18.82	19.84	19.36	20.39	20.99	21.20	22.23	21.75	22.77	23.38
	6H	19.33	20.24	19.90	20.81	21.43	22.43	23.33	22.99	23.90	24.52
	8H	19.49	20.34	20.06	20.91	21.54	23.03	23.88	23.60	24.46	25.09
	12H	19.59	20.36	20.18	20.96	21.60	23.70	24.47	24.29	25.07	25.70
8H	4H	19.40	20.25	19.97	20.82	21.45	21.46	22.31	22.03	22.88	23.51
	6H	20.09	20.81	20.69	21.42	22.06	22.84	23.56	23.44	24.17	24.81
	8H	20.34	20.99	20.96	21.61	22.26	23.58	24.23	24.19	24.85	25.50
	12H	20.53	21.11	21.15	21.72	22.44	24.41	24.98	25.02	25.60	26.31
12H	4H	19.53	20.31	20.12	20.90	21.54	21.47	22.25	22.07	22.85	23.48
	6H	20.30	20.95	20.92	21.58	22.23	22.89	23.54	23.50	24.16	24.81
	8H	20.64	21.22	21.26	21.83	22.55	23.70	24.27	24.31	24.89	25.60