

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: P242686

Luminaire Tested: S124DRP-S1195D930-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242686
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-S1195D930-X4F0-XX-UDD-D-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

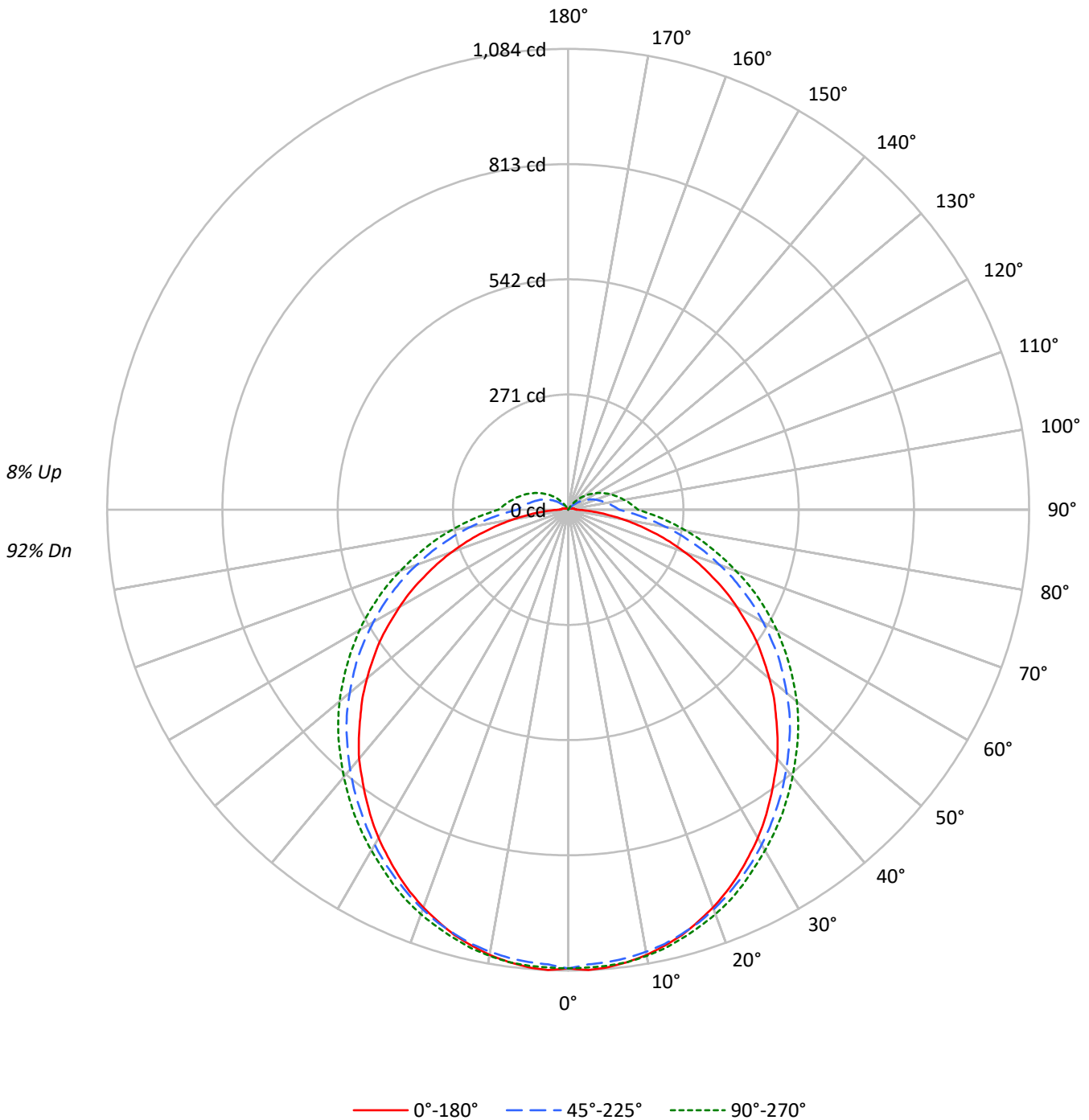
Lumens per Lamp: N/A
Luminaire Lumens: 3678.9 lumens
Efficiency: N/A
Efficacy: 89.5 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 41.1
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	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°	9591	9591	9591
5°	9621	9364	9387
10°	9561	9202	9188
15°	9475	9015	8956
20°	9346	8811	8731
25°	9199	8582	8485
30°	9041	8356	8233
35°	8861	8124	8010
40°	8718	7903	7780
45°	8506	7698	7579
50°	8326	7462	7367
55°	8139	7238	7120
60°	7850	6955	6892
65°	7532	6650	6613
70°	7146	6301	6289
75°	6606	5917	5990
80°	6009	5538	5687
85°	5239	5184	5480

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8506 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.2	2.8
10°-20°	292.9	8.0
20°-30°	442.9	12.0
30°-40°	535.9	14.6
40°-50°	566.5	15.4
50°-60°	533.1	14.5
60°-70°	442.4	12.0
70°-80°	310.5	8.4
80°-90°	175.0	4.8
90°-100°	104.2	2.8
100°-110°	77.2	2.1
110°-120°	51.8	1.4
120°-130°	29.2	0.8
130°-140°	12.6	0.3
140°-150°	2.5	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	838.1	22.8
0°-40°	1374.0	37.3
0°-60°	2473.6	67.2
0°-90°	3401.5	92.5
90°-120°	233.2	6.3
90°-150°	277.4	7.5
90°-180°	277.0	7.5
0°-180°	3678.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1079	1079	1079	1079	1079	
5°	1080	1077	1068	1078	1077	103
15°	1036	1037	1033	1044	1043	292
25°	947	955	958	972	973	436
35°	829	843	856	872	876	519
45°	691	714	737	758	764	534
55°	541	567	603	627	634	482
65°	375	413	454	484	494	371
75°	208	252	303	337	348	221
85°	64	115	169	205	218	67
90°	19	68	120	155	164	13
95°	16	56	105	138	149	13
105°	11	35	80	110	120	12
115°	7	18	57	83	92	8
125°	5	4	34	57	64	5
135°	2	2	11	30	38	2
145°	1	0	0	7	12	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°	1079.0	1079.0	1079.0	1079.0	1079.0
2.5°	1083.9	1080.3	1070.6	1079.0	1077.8
5°	1080.3	1076.6	1068.2	1077.8	1076.6
7.5°	1073.0	1070.6	1063.3	1074.2	1073.0
10°	1063.3	1062.1	1056.1	1067.0	1065.8
12.5°	1050.0	1050.0	1046.4	1056.1	1056.1
15°	1035.5	1036.8	1033.1	1044.0	1042.8
17.5°	1016.2	1019.8	1018.6	1029.5	1028.3
20°	995.7	999.3	1000.5	1012.6	1012.6
22.5°	972.7	977.5	980.0	992.0	994.5
25°	947.3	954.6	958.2	971.5	972.7
27.5°	919.5	930.4	935.3	947.3	948.5
30°	891.8	901.4	909.9	923.2	925.6
32.5°	861.5	873.6	883.3	899.0	901.4
35°	828.9	843.4	855.5	872.4	876.0
37.5°	796.3	813.2	827.7	844.6	848.3
40°	764.9	780.6	797.5	815.6	820.5
42.5°	728.6	746.8	767.3	787.8	791.5
45°	691.2	714.1	737.1	757.6	763.7
47.5°	656.1	679.1	705.7	726.2	733.5
50°	617.5	644.0	670.6	694.8	702.0
52.5°	578.8	605.4	636.8	661.0	668.2
55°	541.3	566.7	603.0	627.1	634.4
57.5°	499.0	530.5	565.5	594.5	600.5
60°	458.0	489.4	529.3	557.0	566.7
62.5°	418.1	453.1	493.0	520.8	530.5
65°	374.6	413.3	454.3	484.5	494.2
67.5°	333.5	374.6	418.1	448.3	458.0
70°	291.2	332.3	378.2	410.8	419.3
72.5°	250.1	292.4	342.0	373.4	383.0
75°	207.8	252.5	303.3	337.1	348.0
77.5°	168.0	215.1	268.3	302.1	314.2
80°	131.7	180.0	233.2	269.5	279.1
82.5°	95.5	146.2	199.4	236.8	247.7
85°	64.0	114.8	169.2	205.4	217.5
87.5°	39.9	89.4	142.6	177.6	188.5
90°	19.3	67.7	119.6	154.7	164.3
92.5°	18.1	60.4	112.4	146.2	155.9
95°	15.7	55.6	105.1	137.8	148.6
97.5°	14.5	49.5	99.1	130.5	141.4
100°	13.3	44.7	91.8	124.5	132.9
102.5°	13.3	39.9	85.8	117.2	126.9
105°	10.9	35.0	79.8	110.0	119.6
107.5°	10.9	31.4	73.7	103.9	112.4
110°	9.7	26.6	68.9	96.7	106.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	8.5	23.0	62.8	89.4	99.1
115°	7.3	18.1	56.8	83.4	91.8
117.5°	7.3	14.5	50.8	76.1	85.8
120°	6.0	9.7	44.7	68.9	78.5
122.5°	6.0	6.0	38.7	62.8	71.3
125°	4.8	3.6	33.8	56.8	64.0
127.5°	4.8	3.6	27.8	49.5	58.0
130°	3.6	2.4	21.8	43.5	50.8
132.5°	3.6	2.4	16.9	37.5	44.7
135°	2.4	2.4	10.9	30.2	37.5
137.5°	2.4	1.2	6.0	24.2	30.2
140°	2.4	1.2	2.4	18.1	24.2
142.5°	1.2	1.2	0.0	13.3	18.1
145°	1.2	0.0	0.0	7.3	12.1
147.5°	1.2	0.0	0.0	1.2	6.0
150°	1.2	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	17.65	19.17	18.12	19.64	20.14	19.20	20.72	19.68	21.19	21.69
	3H	19.29	20.68	19.78	21.15	21.69	21.50	22.89	22.00	23.37	23.91
	4H	19.85	21.17	20.36	21.66	22.21	22.56	23.88	23.08	24.37	24.93
	6H	20.23	21.46	20.76	21.97	22.53	23.62	24.84	24.14	25.35	25.92
	8H	20.34	21.51	20.88	22.04	22.62	24.14	25.31	24.67	25.84	26.41
	12H	20.40	21.53	20.94	22.05	22.65	24.69	25.82	25.23	26.34	26.94
4H	2H	18.49	19.81	19.00	20.30	20.85	19.70	21.01	20.21	21.51	22.06
	3H	20.37	21.49	20.90	22.03	22.60	22.23	23.35	22.75	23.88	24.46
	4H	21.08	22.10	21.62	22.65	23.26	23.44	24.47	23.99	25.01	25.62
	6H	21.60	22.50	22.16	23.07	23.69	24.67	25.58	25.24	26.15	26.77
	8H	21.75	22.60	22.32	23.17	23.81	25.29	26.14	25.86	26.71	27.34
	12H	21.85	22.62	22.44	23.22	23.86	25.95	26.72	26.54	27.32	27.96
8H	4H	21.66	22.51	22.23	23.08	23.71	23.70	24.55	24.27	25.12	25.75
	6H	22.35	23.07	22.95	23.68	24.32	25.09	25.81	25.69	26.42	27.06
	8H	22.60	23.25	23.22	23.88	24.53	25.83	26.48	26.45	27.10	27.75
	12H	22.79	23.37	23.41	23.98	24.70	26.66	27.23	27.27	27.85	28.56
12H	4H	21.79	22.56	22.38	23.16	23.80	23.72	24.49	24.31	25.09	25.72
	6H	22.56	23.21	23.18	23.84	24.49	25.14	25.79	25.76	26.41	27.06
	8H	22.90	23.48	23.52	24.09	24.81	25.95	26.53	26.57	27.14	27.86