

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: P242667

Luminaire Tested: S124DRP-S1195D927-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242667
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-S1195D927-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

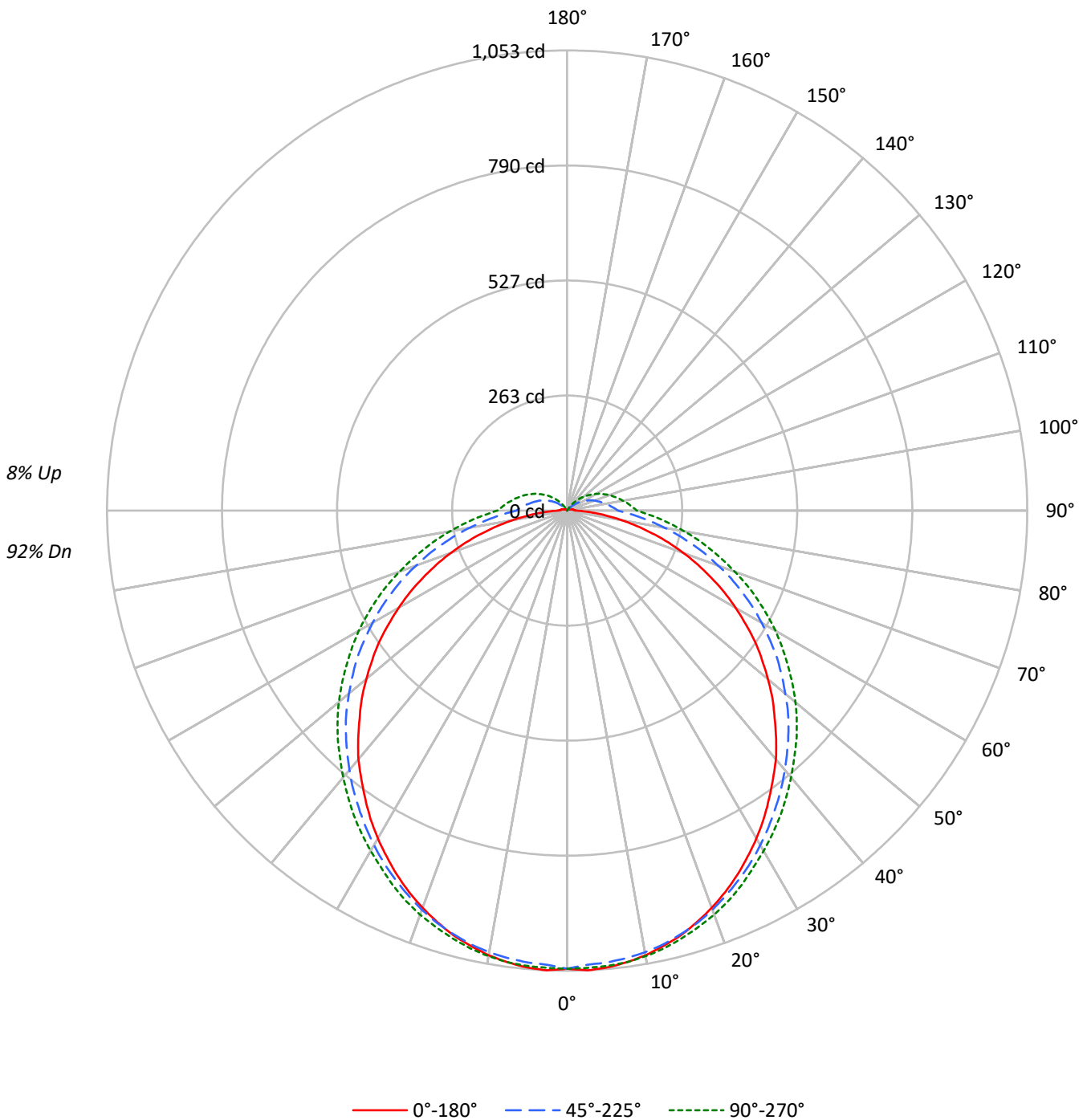
Lumens per Lamp: N/A
Luminaire Lumens: 3574.6 lumens
Efficiency: N/A
Efficacy: 87.0 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')
CIE Type: Direct

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°	9319	9319	9319
5°	9348	9099	9121
10°	9290	8940	8927
15°	9206	8759	8702
20°	9080	8561	8484
25°	8938	8339	8244
30°	8785	8119	7999
35°	8610	7893	7783
40°	8471	7679	7559
45°	8265	7479	7364
50°	8090	7250	7158
55°	7909	7033	6918
60°	7627	6757	6696
65°	7318	6462	6426
70°	6945	6123	6111
75°	6419	5749	5820
80°	5840	5381	5526
85°	5092	5037	5324

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8265 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.3	2.8
10°-20°	284.6	8.0
20°-30°	430.4	12.0
30°-40°	520.7	14.6
40°-50°	550.4	15.4
50°-60°	518.0	14.5
60°-70°	429.9	12.0
70°-80°	301.7	8.4
80°-90°	170.1	4.8
90°-100°	101.2	2.8
100°-110°	75.0	2.1
110°-120°	50.3	1.4
120°-130°	28.3	0.8
130°-140°	12.2	0.3
140°-150°	2.4	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	814.3	22.8
0°-40°	1335.0	37.3
0°-60°	2403.4	67.2
0°-90°	3305.0	92.5
90°-120°	226.5	6.3
90°-150°	269.5	7.5
90°-180°	270.0	7.6
0°-180°	3574.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1048	1048	1048	1048	1048	
5°	1050	1046	1038	1047	1046	100
15°	1006	1007	1004	1014	1013	284
25°	920	928	931	944	945	424
35°	805	820	831	848	851	504
45°	672	694	716	736	742	519
55°	526	551	586	609	616	469
65°	364	402	442	471	480	361
75°	202	245	295	328	338	215
85°	62	112	164	200	211	65
90°	19	66	116	150	160	13
95°	15	54	102	134	144	12
105°	11	34	78	107	116	12
115°	7	18	55	81	89	7
125°	5	4	33	55	62	5
135°	2	2	11	29	36	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°	1048.4	1048.4	1048.4	1048.4	1048.4
2.5°	1053.1	1049.6	1040.2	1048.4	1047.3
5°	1049.6	1046.1	1037.9	1047.3	1046.1
7.5°	1042.6	1040.2	1033.2	1043.8	1042.6
10°	1033.2	1032.0	1026.1	1036.7	1035.5
12.5°	1020.3	1020.3	1016.7	1026.1	1026.1
15°	1006.2	1007.4	1003.8	1014.4	1013.2
17.5°	987.4	990.9	989.7	1000.3	999.1
20°	967.4	971.0	972.1	983.9	983.9
22.5°	945.1	949.8	952.2	963.9	966.3
25°	920.5	927.5	931.0	944.0	945.1
27.5°	893.5	904.0	908.7	920.5	921.6
30°	866.5	875.9	884.1	897.0	899.3
32.5°	837.1	848.9	858.2	873.5	875.9
35°	805.4	819.5	831.2	847.7	851.2
37.5°	773.7	790.2	804.2	820.7	824.2
40°	743.2	758.5	774.9	792.5	797.2
42.5°	708.0	725.6	745.5	765.5	769.0
45°	671.6	693.9	716.2	736.1	742.0
47.5°	637.5	659.8	685.7	705.6	712.7
50°	600.0	625.8	651.6	675.1	682.1
52.5°	562.4	588.2	618.7	642.2	649.3
55°	526.0	550.6	585.9	609.3	616.4
57.5°	484.9	515.4	549.5	577.6	583.5
60°	445.0	475.5	514.2	541.2	550.6
62.5°	406.2	440.3	479.0	506.0	515.4
65°	364.0	401.5	441.5	470.8	480.2
67.5°	324.0	364.0	406.2	435.6	445.0
70°	283.0	322.9	367.5	399.2	407.4
72.5°	243.0	284.1	332.3	362.8	372.2
75°	201.9	245.4	294.7	327.6	338.1
77.5°	163.2	209.0	260.6	293.5	305.3
80°	128.0	174.9	226.6	261.8	271.2
82.5°	92.8	142.1	193.7	230.1	240.7
85°	62.2	111.5	164.4	199.6	211.3
87.5°	38.7	86.9	138.5	172.6	183.2
90°	18.8	65.7	116.2	150.3	159.7
92.5°	17.6	58.7	109.2	142.1	151.5
95°	15.3	54.0	102.1	133.8	144.4
97.5°	14.1	48.1	96.3	126.8	137.4
100°	12.9	43.4	89.2	120.9	129.1
102.5°	12.9	38.7	83.4	113.9	123.3
105°	10.6	34.0	77.5	106.8	116.2
107.5°	10.6	30.5	71.6	101.0	109.2
110°	9.4	25.8	66.9	93.9	103.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	8.2	22.3	61.1	86.9	96.3
115°	7.0	17.6	55.2	81.0	89.2
117.5°	7.0	14.1	49.3	74.0	83.4
120°	5.9	9.4	43.4	66.9	76.3
122.5°	5.9	5.9	37.6	61.1	69.3
125°	4.7	3.5	32.9	55.2	62.2
127.5°	4.7	3.5	27.0	48.1	56.4
130°	3.5	2.3	21.1	42.3	49.3
132.5°	3.5	2.3	16.4	36.4	43.4
135°	2.3	2.3	10.6	29.4	36.4
137.5°	2.3	1.2	5.9	23.5	29.4
140°	2.3	1.2	2.3	17.6	23.5
142.5°	1.2	1.2	0.0	12.9	17.6
145°	1.2	0.0	0.0	7.0	11.7
147.5°	1.2	0.0	0.0	1.2	5.9
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	17.55	19.07	18.02	19.54	20.03	19.10	20.62	19.58	21.09	21.59
	3H	19.19	20.58	19.68	21.05	21.59	21.40	22.79	21.90	23.27	23.81
	4H	19.75	21.07	20.26	21.56	22.11	22.46	23.78	22.98	24.27	24.83
	6H	20.13	21.36	20.66	21.87	22.43	23.52	24.74	24.04	25.25	25.82
	8H	20.24	21.41	20.78	21.94	22.52	24.04	25.21	24.57	25.74	26.31
	12H	20.30	21.43	20.84	21.95	22.55	24.59	25.72	25.13	26.24	26.84
4H	2H	18.39	19.71	18.90	20.20	20.75	19.60	20.91	20.11	21.41	21.96
	3H	20.27	21.39	20.80	21.93	22.50	22.13	23.25	22.65	23.78	24.36
	4H	20.98	22.00	21.52	22.55	23.16	23.34	24.37	23.89	24.92	25.52
	6H	21.50	22.40	22.06	22.97	23.59	24.57	25.48	25.14	26.05	26.67
	8H	21.65	22.50	22.22	23.07	23.71	25.19	26.04	25.76	26.61	27.24
	12H	21.75	22.52	22.34	23.12	23.76	25.85	26.62	26.44	27.22	27.86
8H	4H	21.56	22.41	22.13	22.98	23.61	23.60	24.45	24.17	25.02	25.65
	6H	22.25	22.97	22.85	23.58	24.22	24.99	25.71	25.59	26.32	26.96
	8H	22.50	23.15	23.12	23.78	24.43	25.73	26.38	26.35	27.00	27.65
	12H	22.69	23.27	23.31	23.88	24.60	26.56	27.13	27.17	27.75	28.46
12H	4H	21.69	22.46	22.29	23.06	23.70	23.62	24.39	24.21	24.99	25.62
	6H	22.46	23.11	23.08	23.74	24.39	25.04	25.69	25.66	26.31	26.96
	8H	22.80	23.38	23.42	23.99	24.71	25.85	26.43	26.47	27.04	27.76