

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: P243560

Luminaire Tested: S124RDRP-H1020D927-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243560
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-65)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124RDRP-H1020D927-X4F0-XX-UDD-F-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

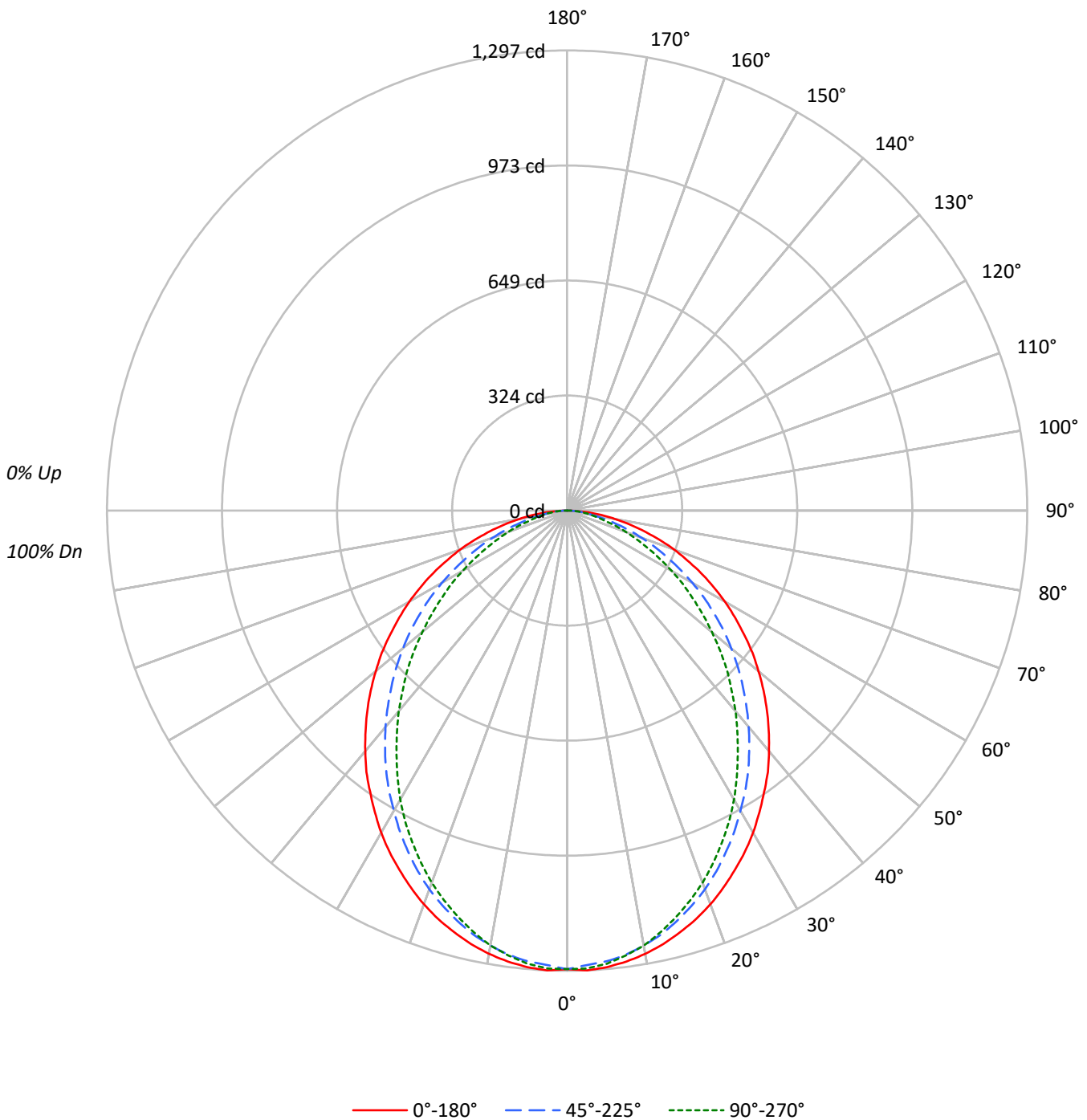
Lumens per Lamp: N/A
Luminaire Lumens: 3047.8 lumens
Efficiency: N/A
Efficacy: 96.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.1 / 1.25
Luminous Opening: Rectangular (W 0.31' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 31.5
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	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	109	105	101	97	107	103	99	96	98	95	93	95	92	90	91	89	87	85					85			
2	100	92	86	80	97	90	84	79	87	82	78	84	79	76	81	77	74	72					72			
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	61					61			
4	84	73	64	58	82	71	64	57	69	62	57	67	61	56	64	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	44	55	48	43	53	47	43	41					41			
7	67	54	45	39	65	53	45	39	51	44	39	50	43	39	49	43	38	36					36			
8	62	49	41	35	61	49	41	35	47	40	35	46	39	35	45	39	34	33					33			
9	58	45	37	32	57	45	37	32	44	37	32	42	36	31	41	36	31	30					30			
10	55	42	34	29	54	41	34	29	40	34	29	39	33	29	39	33	29	27					27			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11489	11489	11489
5°	11524	11379	11439
10°	11450	11236	11236
15°	11324	11016	10911
20°	11171	10747	10557
25°	10964	10403	10123
30°	10760	10026	9653
35°	10506	9658	9098
40°	10272	9242	8567
45°	10013	8801	8010
50°	9735	8350	7361
55°	9432	7834	6712
60°	9140	7241	6037
65°	8748	6541	5277
70°	8330	5777	4587
75°	7700	4815	3733
80°	7033	3757	3419
85°	6221	3600	3406

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 10013 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.6	4.0
10°-20°	339.5	11.1
20°-30°	492.2	16.2
30°-40°	561.1	18.4
40°-50°	545.9	17.9
50°-60°	458.6	15.0
60°-70°	319.5	10.5
70°-80°	165.0	5.4
80°-90°	44.6	1.5
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	953.2	31.3
0°-40°	1514.3	49.7
0°-60°	2518.8	82.6
0°-90°	3047.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3047.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1292	1292	1292	1292	1292	
5°	1292	1288	1275	1285	1282	123
15°	1230	1221	1197	1195	1186	347
25°	1118	1097	1061	1045	1032	515
35°	968	939	890	857	838	606
45°	796	758	700	655	637	614
55°	609	570	506	454	433	545
65°	416	376	311	266	251	412
75°	224	190	140	117	109	239
85°	61	39	35	33	33	70
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1292.5	1292.5	1292.5	1292.5	1292.5
2.5°	1297.3	1293.4	1282.0	1292.5	1291.5
5°	1291.5	1287.7	1275.3	1284.9	1282.0
7.5°	1282.0	1277.2	1262.9	1269.6	1264.8
10°	1268.6	1263.9	1244.8	1249.6	1244.8
12.5°	1251.5	1244.8	1223.8	1224.8	1217.1
15°	1230.5	1220.9	1197.1	1195.2	1185.7
17.5°	1207.6	1195.2	1167.5	1162.8	1152.3
20°	1180.9	1165.6	1136.1	1125.6	1116.0
22.5°	1150.4	1132.2	1099.8	1087.4	1075.0
25°	1117.9	1096.9	1060.7	1045.4	1032.1
27.5°	1084.5	1059.7	1020.6	1001.6	988.2
30°	1048.3	1019.7	976.8	954.8	940.5
32.5°	1008.2	979.6	934.8	908.1	890.0
35°	968.2	938.6	890.0	856.6	838.4
37.5°	929.1	895.7	843.2	808.9	787.9
40°	885.2	849.9	796.5	757.4	738.3
42.5°	841.3	805.1	747.8	706.8	685.8
45°	796.5	758.3	700.1	655.3	637.2
47.5°	750.7	712.5	652.4	605.7	584.7
50°	704.0	665.8	603.8	552.3	532.3
52.5°	658.2	618.1	556.1	503.6	482.7
55°	608.6	569.5	505.5	454.0	433.1
57.5°	560.9	519.9	457.9	405.4	388.2
60°	514.1	473.1	407.3	356.7	339.6
62.5°	464.5	423.5	358.7	310.0	294.7
65°	415.9	375.8	311.0	266.1	250.9
67.5°	366.3	330.0	267.1	224.2	211.8
70°	320.5	279.5	222.3	185.0	176.5
72.5°	271.9	235.6	180.3	149.8	143.1
75°	224.2	189.8	140.2	117.3	108.7
77.5°	180.3	146.9	105.9	86.8	86.8
80°	137.4	107.8	73.4	68.7	66.8
82.5°	97.3	69.6	54.4	50.6	49.6
85°	61.0	39.1	35.3	33.4	33.4
87.5°	29.6	18.1	18.1	17.2	17.2
90°	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	19.93	21.51	20.30	21.82	22.14	18.04	19.61	18.40	19.93	20.24
	3H	21.75	23.17	22.13	23.49	23.86	19.30	20.72	19.68	21.05	21.41
	4H	22.43	23.77	22.83	24.11	24.49	19.70	21.03	20.09	21.38	21.75
	6H	22.95	24.18	23.36	24.55	24.94	19.97	21.21	20.39	21.57	21.96
	8H	23.12	24.29	23.54	24.68	25.08	20.08	21.25	20.50	21.64	22.04
	12H	23.24	24.36	23.67	24.74	25.17	20.15	21.28	20.58	21.66	22.09
4H	2H	20.29	21.62	20.69	21.97	22.34	18.74	20.07	19.14	20.42	20.80
	3H	22.30	23.42	22.71	23.81	24.21	20.19	21.30	20.60	21.70	22.10
	4H	23.11	24.12	23.55	24.53	24.97	20.67	21.67	21.10	22.09	22.52
	6H	23.76	24.63	24.21	25.07	25.53	21.03	21.91	21.49	22.35	22.81
	8H	23.97	24.79	24.44	25.23	25.70	21.17	21.99	21.63	22.43	22.90
	12H	24.14	24.87	24.62	25.35	25.82	21.29	22.02	21.77	22.50	22.97
8H	4H	23.22	24.04	23.68	24.48	24.95	21.00	21.82	21.46	22.26	22.73
	6H	23.95	24.62	24.44	25.11	25.59	21.45	22.13	21.95	22.62	23.09
	8H	24.22	24.83	24.73	25.33	25.82	21.65	22.25	22.16	22.76	23.25
	12H	24.45	24.98	24.95	25.47	26.04	21.83	22.37	22.34	22.86	23.42
12H	4H	23.21	23.94	23.69	24.42	24.89	21.05	21.78	21.53	22.25	22.72
	6H	23.94	24.55	24.45	25.05	25.54	21.51	22.12	22.03	22.63	23.12
	8H	24.25	24.79	24.76	25.28	25.84	21.76	22.30	22.27	22.79	23.35