

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P914779

Luminaire Tested: DFN2DIP-SQ3F0-110D040US927-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P914779
REPORT IS A COMBINATION OF REPORTS P901396 AND P898289
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-110D040US927-RLONL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

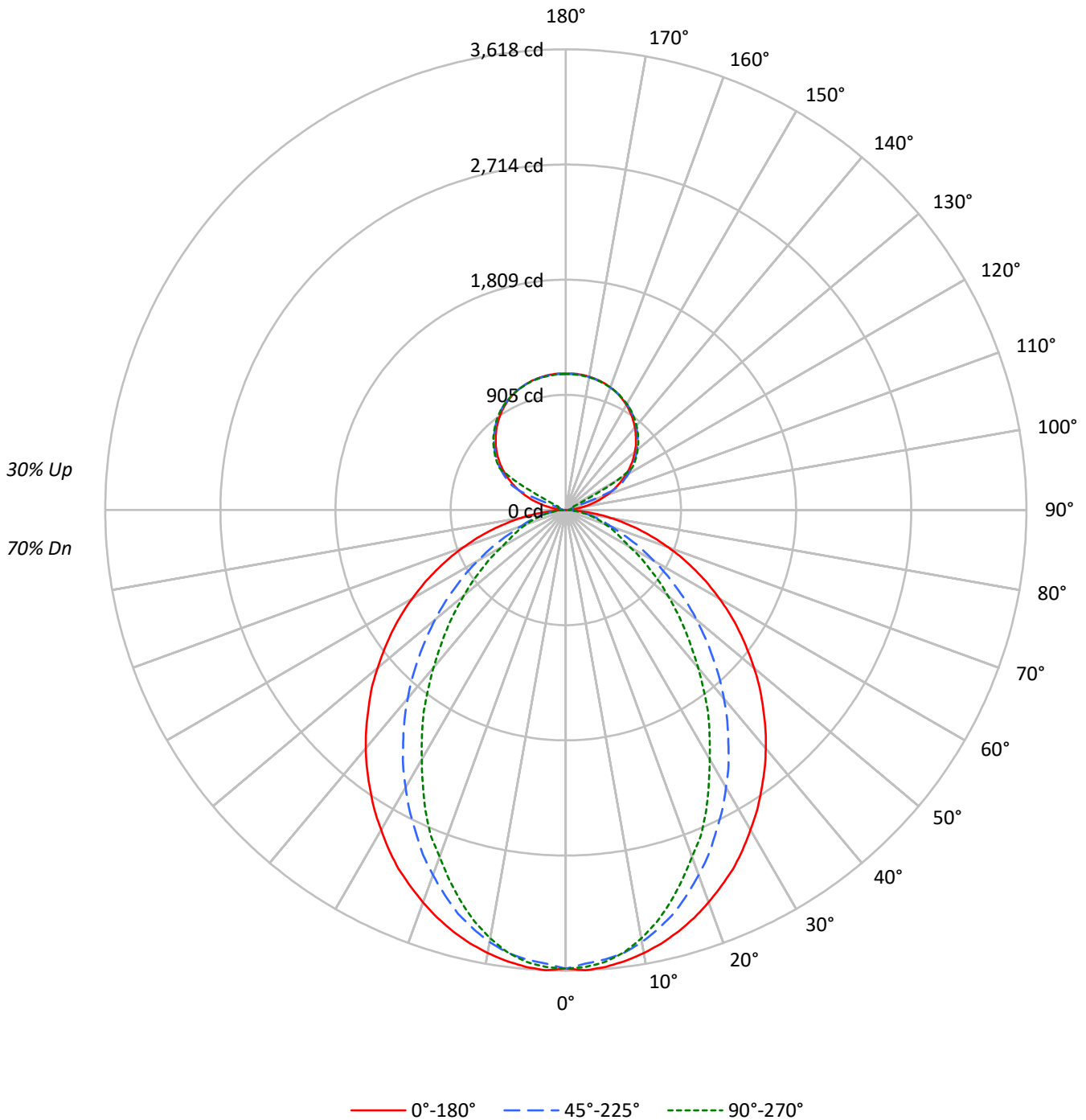
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10543.9 lumens
Efficiency: N/A
Efficacy: 74.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 142.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9977
Total Harmonic Distortion (THDi): 0.049
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				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	0
RCR																					
0	112	112	112	112	106	106	106	106	95	95	95	84	84	84	75	75	75	75	75	75	75
1	103	99	95	92	97	94	90	87	84	82	79	75	73	72	67	66	64	64	64	64	61
2	94	87	81	76	89	83	77	73	75	70	67	67	64	61	60	58	55	55	55	55	52
3	87	77	70	64	82	73	67	62	66	61	57	60	56	52	54	51	48	48	48	48	45
4	80	69	61	55	75	66	59	53	60	54	49	54	49	46	48	45	42	42	42	42	39
5	73	62	54	48	69	59	52	46	54	48	43	49	44	40	44	40	37	37	37	37	34
6	68	56	48	42	64	53	46	41	49	43	38	44	39	35	40	36	33	33	33	33	30
7	63	51	43	37	60	49	41	36	44	38	34	41	36	32	37	33	30	30	30	30	27
8	59	46	39	33	56	45	37	32	41	35	30	37	32	29	34	30	27	27	27	27	25
9	55	43	35	30	52	41	34	29	38	32	28	35	30	26	32	27	24	24	24	24	22
10	52	39	32	27	49	38	31	27	35	29	25	32	27	24	29	25	22	22	22	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4127	4127	4127
5°	4131	4058	4086
10°	4087	3976	3951
15°	4028	3842	3745
20°	3951	3658	3491
25°	3872	3453	3247
30°	3767	3242	2937
35°	3664	3017	2665
40°	3559	2783	2354
45°	3437	2524	2071
50°	3311	2264	1795
55°	3179	1985	1531
60°	3026	1694	1259
65°	2849	1399	1131
70°	2635	1124	1022
75°	2366	985	927
80°	1977	817	799
85°	1342	533	593

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3437 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	337.5	3.2
10°-20°	926.6	8.8
20°-30°	1300.9	12.3
30°-40°	1418.1	13.4
40°-50°	1303.4	12.4
50°-60°	1023.6	9.7
60°-70°	666.3	6.3
70°-80°	343.0	3.3
80°-90°	89.4	0.8
90°-100°	35.2	0.3
100°-110°	131.5	1.2
110°-120°	348.6	3.3
120°-130°	578.2	5.5
130°-140°	614.2	5.8
140°-150°	570.9	5.4
150°-160°	458.9	4.4
160°-170°	295.7	2.8
170°-180°	101.8	1.0
0°-30°	2565.1	24.3
0°-40°	3983.1	37.8
0°-60°	6310.1	59.8
0°-90°	7408.8	70.3
90°-120°	515.3	4.9
90°-150°	2278.7	21.6
90°-180°	3135.0	29.7
0°-180°	10543.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3602	3602	3602	3602	3602	
5°	3602	3585	3543	3572	3562	341
15°	3426	3390	3279	3217	3184	965
25°	3109	3005	2790	2656	2607	1430
35°	2679	2513	2226	2021	1949	1677
45°	2190	1972	1630	1398	1320	1691
55°	1665	1411	1059	864	802	1488
65°	1124	860	567	456	446	1115
75°	600	371	261	238	235	634
85°	140	72	62	62	62	161
90°	1	9	15	19	21	10
95°	50	25	30	34	33	60
105°	235	258	47	56	59	251
115°	445	458	477	119	64	438
125°	629	639	654	659	662	561
135°	778	791	798	806	804	601
145°	903	902	915	921	917	565
155°	994	988	997	1001	995	458
165°	1048	1043	1045	1051	1045	296
175°	1072	1066	1068	1073	1066	102
180°	1069	1069	1069	1069	1069	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3601.5	3601.5	3601.5	3601.5	3601.5
2.5°	3617.7	3601.5	3565.5	3598.4	3591.8
5°	3601.5	3585.3	3542.7	3572.1	3562.4
7.5°	3572.1	3552.7	3507.1	3519.9	3503.6
10°	3533.0	3510.2	3445.2	3435.1	3415.8
12.5°	3484.3	3454.9	3366.7	3347.3	3311.3
15°	3425.5	3389.5	3278.8	3217.0	3184.4
17.5°	3357.0	3304.8	3167.9	3096.2	3044.0
20°	3278.8	3213.5	3050.6	2969.3	2897.4
22.5°	3194.2	3119.1	2930.0	2819.3	2770.5
25°	3109.4	3005.0	2789.9	2656.4	2607.3
27.5°	3008.5	2897.4	2659.5	2506.3	2431.3
30°	2900.9	2776.8	2516.0	2350.0	2261.8
32.5°	2796.5	2646.4	2379.4	2183.7	2102.1
35°	2679.2	2512.9	2226.3	2020.9	1948.9
37.5°	2565.2	2385.7	2082.7	1857.6	1776.4
40°	2444.4	2249.1	1932.7	1701.3	1616.6
42.5°	2320.6	2112.1	1783.0	1541.6	1460.3
45°	2190.3	1971.7	1629.8	1398.0	1319.9
47.5°	2066.5	1835.2	1483.1	1251.4	1179.9
50°	1929.5	1698.2	1339.7	1114.5	1046.4
52.5°	1795.7	1551.2	1202.7	987.6	925.7
55°	1665.3	1411.2	1059.1	863.8	801.9
57.5°	1531.9	1271.1	932.2	749.7	697.4
60°	1395.0	1134.2	798.4	632.5	580.3
62.5°	1261.5	1000.8	684.4	528.1	502.1
65°	1124.5	860.3	567.1	456.5	446.4
67.5°	994.2	730.0	456.5	400.8	391.1
70°	857.2	603.1	377.9	345.5	332.3
72.5°	726.8	485.5	316.1	290.1	283.5
75°	599.6	371.4	260.7	237.9	234.8
77.5°	472.7	263.9	205.4	192.3	185.7
80°	355.1	189.2	156.3	143.5	143.5
82.5°	247.6	127.2	107.6	101.0	101.0
85°	140.1	71.6	61.9	61.9	61.9
87.5°	52.2	25.9	25.9	22.8	22.8
90°	0.7	9.3	15.4	19.4	20.8
92.5°	19.4	16.2	18.5	20.1	20.8
95°	50.2	24.7	30.1	34.1	33.3
97.5°	90.5	27.1	39.5	41.8	42.5
100°	137.0	31.0	44.1	50.2	51.8
102.5°	188.0	186.6	45.6	54.1	56.5
105°	235.2	258.5	47.2	55.7	58.8
107.5°	290.2	309.5	48.8	57.3	60.4
110°	342.9	359.0	135.5	58.1	61.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	392.4	406.2	393.1	59.6	61.9
115°	444.9	458.0	477.4	119.1	63.5
117.5°	490.6	506.0	519.3	408.5	205.8
120°	541.7	553.3	567.2	576.5	472.1
122.5°	584.9	597.4	612.9	617.5	618.3
125°	629.1	639.2	653.9	659.3	661.6
127.5°	669.3	680.2	691.8	699.6	700.3
130°	707.3	719.7	728.1	736.6	735.9
132.5°	745.9	756.1	764.5	771.5	770.8
135°	778.5	790.9	797.8	805.6	804.1
137.5°	812.5	821.7	829.6	837.3	835.0
140°	845.7	852.0	860.5	867.4	863.6
142.5°	873.7	879.1	889.1	895.2	891.4
145°	903.1	902.3	915.4	920.8	916.9
147.5°	928.5	926.2	939.4	943.3	940.2
150°	953.3	947.9	960.4	965.0	961.1
152.5°	974.2	968.0	979.6	984.3	978.9
155°	994.3	987.5	996.7	1001.3	995.1
157.5°	1010.6	1004.4	1011.5	1016.8	1010.6
160°	1024.5	1019.9	1024.5	1029.1	1023.7
162.5°	1036.9	1032.3	1036.2	1041.6	1034.6
165°	1047.7	1043.1	1045.4	1050.8	1045.4
167.5°	1056.3	1051.5	1054.0	1059.4	1052.4
170°	1063.3	1058.6	1060.1	1065.6	1058.6
172.5°	1067.9	1063.3	1064.8	1070.2	1063.3
175°	1071.7	1066.3	1067.9	1073.2	1065.6
177.5°	1073.2	1067.9	1068.7	1074.1	1067.1
180°	1069.4	1069.4	1069.4	1069.4	1069.4



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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	13.75	14.78	14.52	15.56	16.52	9.71	10.74	10.48	11.53	12.48
	3H	15.44	16.36	16.22	17.15	18.14	10.91	11.83	11.69	12.62	13.61
	4H	16.05	16.92	16.85	17.72	18.72	11.36	12.23	12.16	13.03	14.03
	6H	16.48	17.28	17.29	18.09	19.10	11.69	12.49	12.50	13.30	14.31
	8H	16.61	17.37	17.43	18.20	19.21	11.78	12.54	12.60	13.37	14.38
	12H	16.68	17.40	17.50	18.23	19.26	11.83	12.55	12.66	13.38	14.41
4H	2H	13.79	14.66	14.60	15.46	16.46	10.33	11.20	11.13	12.00	12.99
	3H	15.63	16.35	16.45	17.19	18.20	11.69	12.41	12.51	13.25	14.26
	4H	16.33	16.98	17.16	17.82	18.86	12.24	12.89	13.07	13.73	14.77
	6H	16.85	17.41	17.70	18.28	19.32	12.66	13.23	13.51	14.09	15.13
	8H	17.03	17.55	17.88	18.41	19.46	12.79	13.32	13.64	14.17	15.23
	12H	17.13	17.60	18.00	18.48	19.54	12.86	13.34	13.73	14.21	15.27
8H	4H	16.31	16.84	17.16	17.69	18.75	12.53	13.06	13.38	13.91	14.97
	6H	16.88	17.31	17.75	18.21	19.27	13.05	13.48	13.93	14.38	15.44
	8H	17.09	17.48	17.98	18.37	19.44	13.24	13.62	14.12	14.52	15.59
	12H	17.24	17.58	18.12	18.46	19.59	13.36	13.70	14.25	14.58	15.71
12H	4H	16.27	16.74	17.14	17.62	18.68	12.54	13.02	13.41	13.89	14.95
	6H	16.85	17.24	17.74	18.13	19.21	13.10	13.48	13.98	14.38	15.45
	8H	17.08	17.42	17.97	18.30	19.43	13.31	13.65	14.20	14.54	15.66