

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: P914762

Luminaire Tested: DFN2DIP-SQ3F0-100D090US927-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P914762
REPORT IS A COMBINATION OF REPORTS P899964 AND P896733
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-100D090US927-RLLFLL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

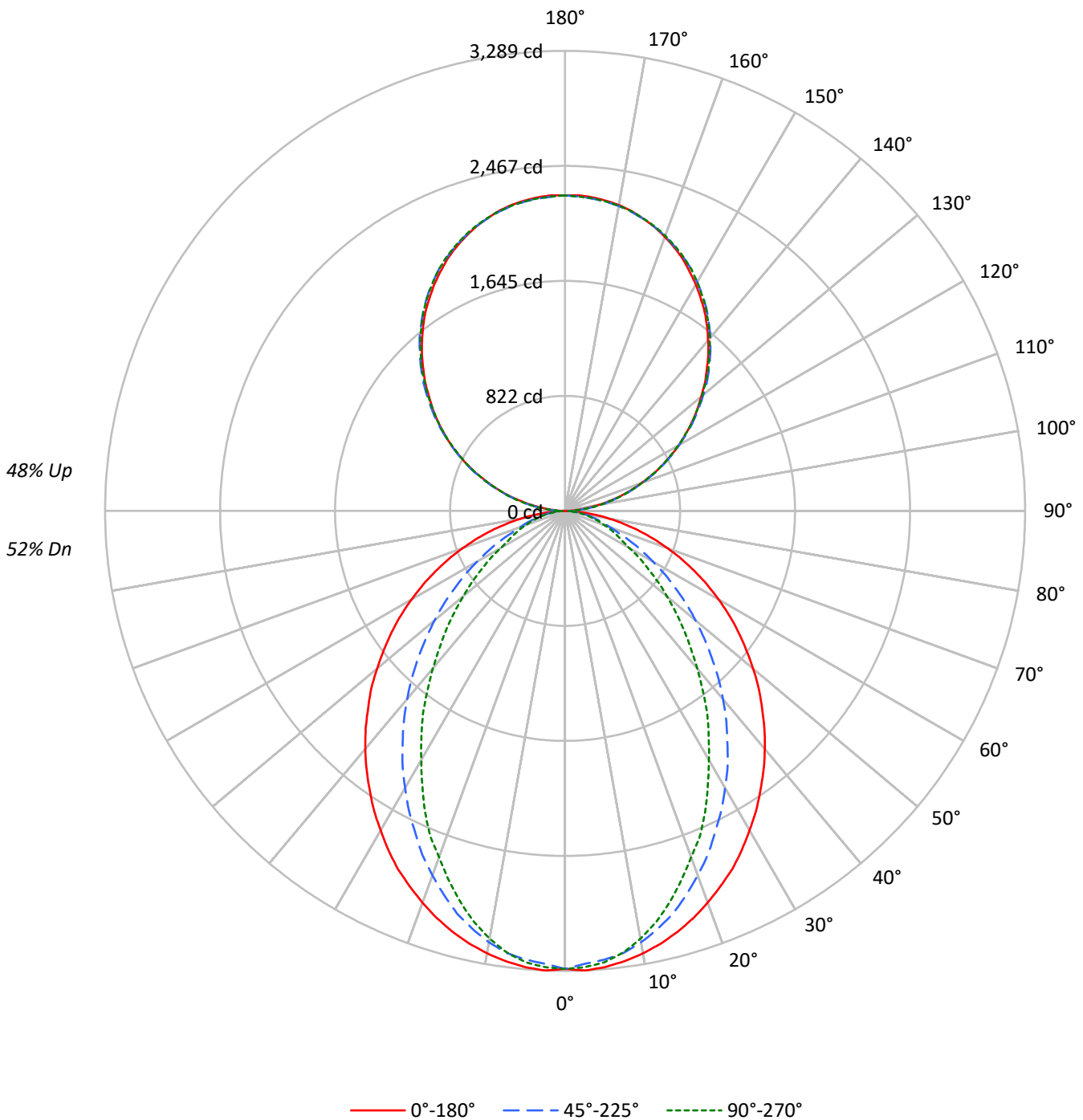
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13043.3 lumens
Efficiency: N/A
Efficacy: 78.1 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: General Diffuse

Input Watts (W): 167
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9781
Total Harmonic Distortion (THDi): 0.075
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P914762
CATALOG NUMBER: DFN2DIP-SQ3F0-100D090US927-RLFL

Luminous Intensity Polar Plot





TEST NUMBER: P914762
 CATALOG NUMBER: DFN2DIP-SQ3F0-100D090US927-RLFL

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	108	108	108	108	99	99	99	99	84	84	84	70	70	70	58	58	58	52
1	99	94	91	87	91	88	84	82	75	72	70	63	61	60	52	51	50	45
2	90	83	77	72	83	77	72	68	66	62	59	56	53	51	46	44	43	38
3	83	73	66	61	76	68	62	57	59	54	50	50	46	43	41	39	37	33
4	76	65	58	52	70	61	54	49	52	47	43	45	41	38	37	34	32	29
5	70	59	51	45	64	55	48	42	47	42	38	40	36	33	34	31	28	25
6	64	53	45	39	60	49	42	37	43	37	33	37	32	29	31	28	25	22
7	60	48	40	35	55	45	38	33	39	33	29	33	29	26	28	25	23	20
8	56	43	36	31	51	41	34	29	36	30	26	31	26	23	26	23	20	18
9	52	40	32	28	48	37	31	26	33	27	24	28	24	21	24	21	19	16
10	48	37	30	25	45	34	28	24	30	25	21	26	22	19	23	19	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3751	3751	3751
5°	3755	3689	3714
10°	3715	3615	3592
15°	3662	3493	3404
20°	3592	3326	3174
25°	3520	3139	2952
30°	3425	2948	2670
35°	3331	2742	2423
40°	3235	2530	2140
45°	3124	2295	1883
50°	3010	2058	1632
55°	2890	1805	1391
60°	2751	1540	1144
65°	2590	1272	1028
70°	2396	1022	929
75°	2151	895	842
80°	1797	743	727
85°	1219	484	538

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3124 cd/sqm



TEST NUMBER: P914762

CATALOG NUMBER: DFN2DIP-SQ3F0-100D090US927-RLFL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	306.9	2.4
10°-20°	842.4	6.5
20°-30°	1182.6	9.1
30°-40°	1289.2	9.9
40°-50°	1184.9	9.1
50°-60°	930.5	7.1
60°-70°	605.7	4.6
70°-80°	311.8	2.4
80°-90°	86.0	0.7
90°-100°	139.5	1.1
100°-110°	443.3	3.4
110°-120°	758.7	5.8
120°-130°	997.8	7.6
130°-140°	1120.0	8.6
140°-150°	1098.2	8.4
150°-160°	921.3	7.1
160°-170°	611.0	4.7
170°-180°	213.5	1.6
0°-30°	2331.9	17.9
0°-40°	3621.0	27.8
0°-60°	5736.5	44.0
0°-90°	6739.9	51.7
90°-120°	1341.5	10.3
90°-150°	4557.5	34.9
90°-180°	6303.0	48.3
0°-180°	13043.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3274	3274	3274	3274	3274	
5°	3274	3259	3221	3247	3238	310
15°	3114	3081	2981	2924	2895	878
25°	2827	2732	2536	2415	2370	1300
35°	2436	2284	2024	1837	1772	1524
45°	1991	1792	1482	1271	1200	1538
55°	1514	1283	963	785	729	1353
65°	1022	782	516	415	406	1014
75°	545	338	237	216	213	577
85°	127	65	56	56	56	146
90°	2	24	67	62	65	13
95°	99	118	122	122	118	110
105°	409	415	419	422	422	432
115°	761	772	769	767	761	753
125°	1107	1124	1119	1113	1111	990
135°	1432	1453	1458	1455	1450	1107
145°	1739	1752	1763	1765	1758	1086
155°	1988	1994	2000	2009	2003	915
165°	2163	2161	2161	2175	2165	610
175°	2251	2245	2241	2255	2243	214
180°	2255	2255	2255	2255	2255	



TEST NUMBER: P914762

CATALOG NUMBER: DFN2DIP-SQ3F0-100D090US927-RLFL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3274.1	3274.1	3274.1	3274.1	3274.1
2.5°	3288.8	3274.1	3241.4	3271.2	3265.3
5°	3274.1	3259.3	3220.6	3247.4	3238.5
7.5°	3247.4	3229.7	3188.2	3199.9	3185.1
10°	3211.8	3191.1	3132.0	3122.9	3105.3
12.5°	3167.5	3140.8	3060.6	3043.0	3010.3
15°	3114.1	3081.3	2980.7	2924.5	2894.9
17.5°	3051.8	3004.3	2879.9	2814.8	2767.3
20°	2980.7	2921.3	2773.3	2699.4	2634.0
22.5°	2903.7	2835.5	2663.6	2563.0	2518.7
25°	2826.7	2731.8	2536.2	2414.9	2370.3
27.5°	2734.9	2634.0	2417.7	2278.5	2210.3
30°	2637.2	2524.3	2287.3	2136.4	2056.3
32.5°	2542.3	2405.8	2163.1	1985.2	1911.0
35°	2435.6	2284.5	2023.9	1837.1	1771.7
37.5°	2331.9	2168.8	1893.4	1688.8	1614.9
40°	2222.2	2044.6	1757.0	1546.7	1469.7
42.5°	2109.7	1920.1	1620.9	1401.4	1327.5
45°	1991.1	1792.5	1481.6	1271.0	1199.9
47.5°	1878.7	1668.3	1348.3	1137.7	1072.6
50°	1754.1	1543.8	1217.8	1013.2	951.3
52.5°	1632.4	1410.2	1093.4	897.8	841.5
55°	1513.9	1282.9	962.9	785.3	729.0
57.5°	1392.7	1155.6	847.6	681.5	634.1
60°	1268.1	1031.1	725.9	575.0	527.5
62.5°	1146.8	909.7	622.1	480.1	456.5
65°	1022.3	782.1	515.6	414.9	405.8
67.5°	903.8	663.6	414.9	364.3	355.5
70°	779.3	548.3	343.6	314.0	302.1
72.5°	660.8	441.3	287.3	263.7	257.8
75°	545.1	337.6	237.0	216.3	213.4
77.5°	429.8	239.9	186.7	174.8	168.8
80°	322.8	172.0	142.1	130.5	130.5
82.5°	225.1	115.7	97.8	91.8	91.8
85°	127.3	65.0	56.2	56.2	56.2
87.5°	47.5	23.6	23.6	20.8	20.8
90°	2.1	24.5	66.6	62.5	64.6
92.5°	42.1	57.1	59.2	61.2	61.2
95°	99.3	118.3	121.7	121.7	118.3
97.5°	165.2	182.8	190.4	190.4	190.4
100°	241.3	257.0	262.4	262.4	260.4
102.5°	321.5	333.1	340.6	342.6	340.6
105°	409.2	414.6	418.7	422.2	422.2
107.5°	496.2	504.4	504.4	505.7	496.2
110°	580.5	591.4	591.4	591.4	586.0



TEST NUMBER: P914762

CATALOG NUMBER: DFN2DIP-SQ3F0-100D090US927-RLFL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	671.6	683.2	681.1	675.7	671.6
115°	761.4	772.2	768.8	766.8	761.4
117.5°	850.4	865.4	855.9	850.4	844.9
120°	940.2	955.1	940.2	940.2	934.0
122.5°	1021.7	1040.8	1031.3	1025.8	1021.7
125°	1107.4	1124.3	1119.0	1112.8	1110.8
127.5°	1191.0	1212.0	1204.6	1196.4	1191.0
130°	1269.2	1293.6	1290.2	1286.1	1278.7
132.5°	1356.8	1375.9	1377.2	1367.7	1362.3
135°	1432.3	1453.3	1457.5	1455.4	1450.0
137.5°	1516.6	1533.6	1537.0	1535.6	1527.5
140°	1590.7	1607.7	1617.2	1617.2	1609.7
142.5°	1666.8	1683.8	1689.2	1691.3	1683.8
145°	1738.9	1752.5	1763.3	1765.4	1757.9
147.5°	1803.5	1820.4	1828.6	1832.0	1824.6
150°	1870.1	1881.7	1889.1	1895.2	1889.1
152.5°	1929.2	1940.8	1950.3	1957.8	1950.3
155°	1988.4	1993.8	1999.9	2009.4	2003.3
157.5°	2039.3	2043.4	2046.8	2060.4	2050.9
160°	2084.9	2089.0	2091.0	2102.5	2094.4
162.5°	2127.0	2127.0	2129.1	2142.0	2132.5
165°	2163.1	2161.0	2161.0	2174.6	2165.1
167.5°	2195.7	2189.6	2189.6	2203.1	2193.6
170°	2220.2	2214.7	2212.7	2226.3	2214.7
172.5°	2237.1	2231.7	2229.7	2243.3	2231.7
175°	2250.7	2245.3	2241.2	2254.9	2243.3
177.5°	2258.2	2252.8	2248.7	2260.3	2248.7
180°	2254.9	2254.9	2254.9	2254.9	2254.9



TEST NUMBER: P914762
 CATALOG NUMBER: DFN2DIP-SQ3F0-100D090US927-RLLFLL

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	11.86	12.70	12.81	13.67	14.92	7.82	8.67	8.77	9.63	10.88
	3H	13.53	14.29	14.50	15.26	16.53	9.00	9.76	9.97	10.73	12.00
	4H	14.14	14.85	15.12	15.83	17.11	9.45	10.16	10.43	11.14	12.42
	6H	14.56	15.22	15.55	16.20	17.49	9.77	10.42	10.75	11.40	12.70
	8H	14.68	15.31	15.68	16.30	17.60	9.85	10.48	10.85	11.48	12.77
	12H	14.74	15.34	15.74	16.33	17.64	9.90	10.49	10.89	11.48	12.79
4H	2H	11.88	12.59	12.86	13.57	14.85	8.42	9.13	9.40	10.10	11.39
	3H	13.70	14.30	14.69	15.30	16.60	9.76	10.35	10.75	11.36	12.65
	4H	14.39	14.93	15.39	15.93	17.25	10.30	10.84	11.30	11.84	13.16
	6H	14.90	15.37	15.91	16.39	17.71	10.72	11.18	11.73	12.20	13.52
	8H	15.08	15.51	16.09	16.52	17.86	10.84	11.28	11.85	12.29	13.62
	12H	15.17	15.56	16.20	16.59	17.93	10.90	11.30	11.93	12.32	13.66
8H	4H	14.36	14.79	15.37	15.81	17.14	10.58	11.02	11.59	12.03	13.36
	6H	14.92	15.28	15.96	16.34	17.66	11.09	11.45	12.13	12.51	13.83
	8H	15.13	15.45	16.18	16.49	17.84	11.28	11.59	12.32	12.64	13.98
	12H	15.27	15.55	16.32	16.58	17.98	11.39	11.67	12.44	12.71	14.10
12H	4H	14.31	14.70	15.34	15.73	17.07	10.59	10.98	11.61	12.01	13.34
	6H	14.90	15.21	15.94	16.25	17.60	11.14	11.46	12.18	12.50	13.84
	8H	15.11	15.39	16.16	16.43	17.82	11.35	11.62	12.39	12.66	14.05