

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: P914775

Luminaire Tested: DFN2DIP-SQ3F0-100D120US927-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P914775
REPORT IS A COMBINATION OF REPORTS P901538 AND P898289
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-100D120US927-RLLONL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

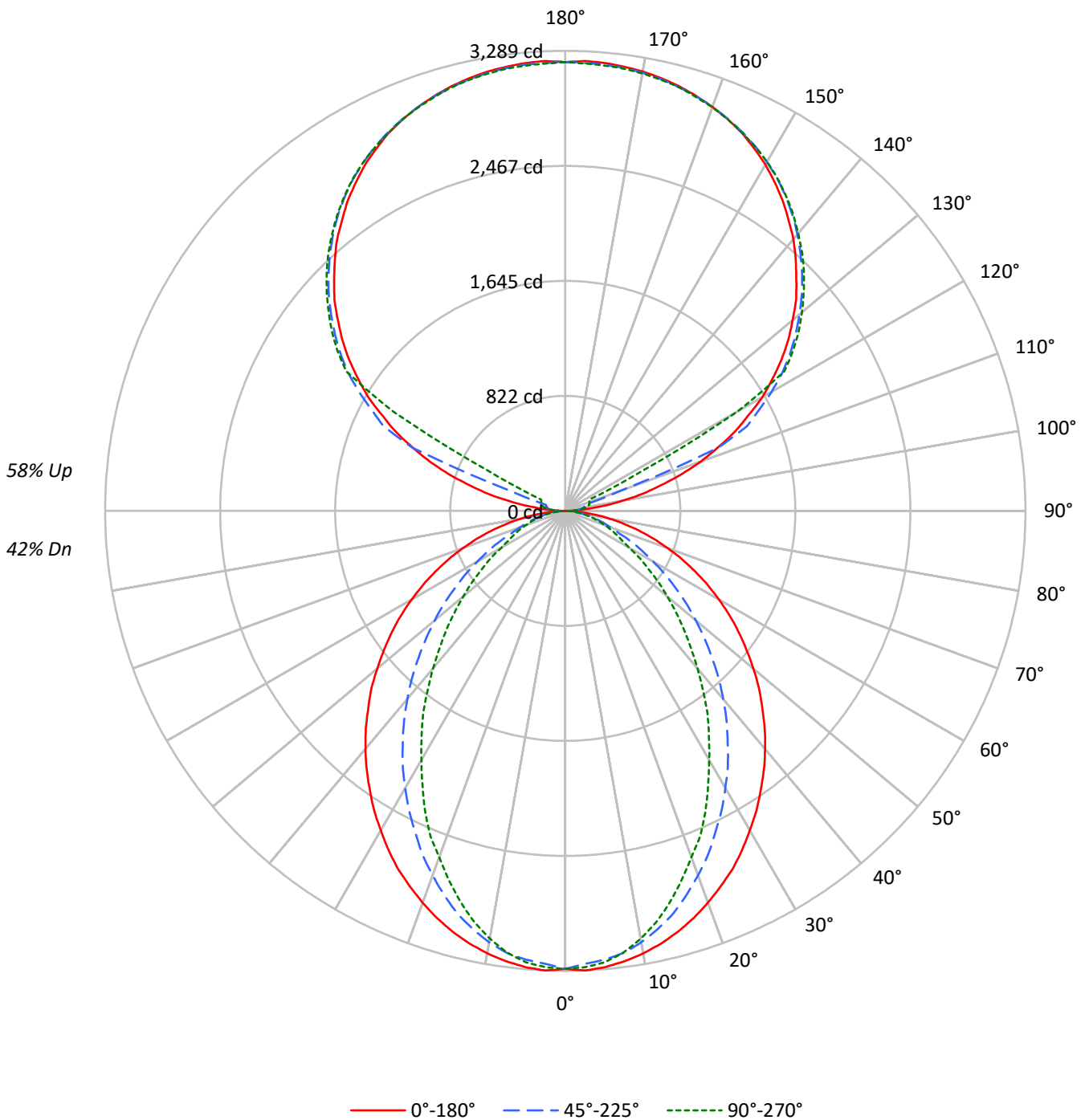
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16144.6 lumens
Efficiency: N/A
Efficacy: 83.8 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): 192.6
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: P914775
CATALOG NUMBER: DFN2DIP-SQ3F0-100D120US927-RLLONL

Luminous Intensity Polar Plot





TEST NUMBER: P914775
 CATALOG NUMBER: DFN2DIP-SQ3F0-100D120US927-RLLONL

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	0
RCR																					
0	105	105	105	105	96	96	96	96	79	79	79	63	63	63	49	49	49	49	49	49	42
1	96	92	89	85	88	84	81	78	70	67	65	56	55	53	43	43	42	42	42	42	36
2	88	81	75	70	80	74	69	65	61	58	55	50	47	45	39	37	36	36	36	36	31
3	81	72	65	59	73	66	60	55	55	50	46	44	41	39	35	33	31	31	31	31	27
4	74	64	56	50	67	58	52	47	49	44	40	40	36	33	31	29	27	27	27	27	23
5	68	57	49	43	62	52	45	40	44	39	35	36	32	29	28	26	24	24	24	24	20
6	63	51	43	38	57	47	40	35	39	34	30	32	29	26	26	23	21	21	21	21	18
7	58	46	38	33	53	43	36	31	36	31	27	30	26	23	24	21	19	19	19	19	16
8	54	42	34	29	49	39	32	27	33	28	24	27	23	20	22	19	17	17	17	17	15
9	50	38	31	26	46	35	29	25	30	25	22	25	21	18	20	17	15	15	15	15	13
10	47	35	28	23	43	33	26	22	28	23	19	23	19	17	19	16	14	14	14	14	12

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: P914775

CATALOG NUMBER: DFN2DIP-SQ3F0-100D120US927-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	306.9	1.9
10°-20°	842.4	5.2
20°-30°	1182.6	7.3
30°-40°	1289.2	8.0
40°-50°	1184.9	7.3
50°-60°	930.5	5.8
60°-70°	605.7	3.8
70°-80°	311.8	1.9
80°-90°	85.2	0.5
90°-100°	105.8	0.7
100°-110°	394.4	2.4
110°-120°	1045.9	6.5
120°-130°	1734.7	10.7
130°-140°	1842.7	11.4
140°-150°	1712.6	10.6
150°-160°	1376.9	8.5
160°-170°	887.2	5.5
170°-180°	305.4	1.9
0°-30°	2331.9	14.4
0°-40°	3621.0	22.4
0°-60°	5736.5	35.5
0°-90°	6739.2	41.7
90°-120°	1546.1	9.6
90°-150°	6836.0	42.3
90°-180°	9405.0	58.3
0°-180°	16144.6	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	28	46	58	63	15
95°	151	74	90	102	100	179
105°	706	776	142	167	176	754
115°	1335	1374	1432	358	190	1314
125°	1887	1918	1962	1978	1985	1683
135°	2335	2373	2393	2417	2412	1804
145°	2709	2707	2746	2762	2751	1694
155°	2983	2962	2990	3004	2986	1375
165°	3143	3129	3136	3153	3136	888
175°	3215	3199	3204	3220	3197	306
180°	3208	3208	3208	3208	3208	



TEST NUMBER: P914775

CATALOG NUMBER: DFN2DIP-SQ3F0-100D120US927-RLONL

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°	2.2	27.8	46.3	58.1	62.6
92.5°	58.1	48.8	55.7	60.4	62.6
95°	150.8	74.1	90.4	102.3	99.8
97.5°	271.6	81.4	118.3	125.4	127.6
100°	411.0	92.9	132.3	150.8	155.5
102.5°	564.0	559.6	137.0	162.4	169.5
105°	705.7	775.5	141.7	167.1	176.4
107.5°	870.5	928.4	146.4	171.7	181.1
110°	1028.5	1077.0	406.3	174.2	183.3



TEST NUMBER: P914775

CATALOG NUMBER: DFN2DIP-SQ3F0-100D120US927-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1177.1	1218.7	1179.3	178.6	185.8
115°	1334.7	1374.2	1432.3	357.5	190.5
117.5°	1471.8	1518.1	1557.8	1225.6	617.5
120°	1625.1	1659.8	1701.7	1729.6	1416.1
122.5°	1754.9	1792.2	1838.7	1852.5	1855.0
125°	1887.2	1917.6	1961.7	1977.9	1984.8
127.5°	2007.9	2040.5	2075.5	2098.6	2100.9
130°	2121.8	2159.0	2184.4	2210.0	2207.8
132.5°	2237.8	2268.2	2293.5	2314.5	2312.3
135°	2335.4	2372.7	2393.3	2416.8	2412.1
137.5°	2437.5	2465.3	2488.7	2511.8	2505.0
140°	2537.3	2556.0	2581.3	2602.3	2590.7
142.5°	2621.0	2637.3	2667.4	2685.8	2674.2
145°	2709.3	2706.8	2746.2	2762.5	2750.8
147.5°	2785.6	2778.7	2818.2	2829.8	2820.6
150°	2860.0	2843.8	2881.0	2894.8	2883.2
152.5°	2922.6	2904.1	2938.9	2952.9	2936.7
155°	2983.0	2962.3	2990.2	3004.0	2985.5
157.5°	3031.8	3013.3	3034.3	3050.5	3031.8
160°	3073.7	3059.6	3073.7	3087.4	3071.2
162.5°	3110.7	3096.9	3108.4	3124.7	3103.8
165°	3143.1	3129.4	3136.2	3152.6	3136.2
167.5°	3168.8	3154.7	3161.9	3178.2	3157.2
170°	3189.7	3175.7	3180.4	3196.6	3175.7
172.5°	3203.5	3189.7	3194.5	3210.7	3189.7
175°	3215.1	3198.8	3203.5	3219.8	3196.6
177.5°	3219.8	3203.5	3206.0	3222.3	3201.4
180°	3208.3	3208.3	3208.3	3208.3	3208.3



TEST NUMBER: P914775
 CATALOG NUMBER: DFN2DIP-SQ3F0-100D120US927-RLLONL

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	10.88	11.65	11.92	12.69	14.07	6.84	7.61	7.88	8.65	10.03
	3H	12.55	13.24	13.59	14.28	15.69	8.02	8.71	9.06	9.75	11.16
	4H	13.15	13.80	14.21	14.85	16.26	8.46	9.11	9.52	10.16	11.57
	6H	13.57	14.17	14.63	15.22	16.64	8.78	9.37	9.84	10.42	11.85
	8H	13.69	14.26	14.76	15.33	16.75	8.86	9.43	9.93	10.50	11.92
	12H	13.75	14.29	14.82	15.35	16.79	8.90	9.44	9.97	10.50	11.94
4H	2H	10.89	11.54	11.95	12.59	14.00	7.43	8.08	8.49	9.12	10.54
	3H	12.71	13.25	13.78	14.32	15.75	8.77	9.31	9.83	10.38	11.81
	4H	13.40	13.89	14.47	14.96	16.40	9.31	9.80	10.38	10.87	12.31
	6H	13.90	14.33	14.99	15.42	16.86	9.72	10.14	10.80	11.23	12.67
	8H	14.08	14.47	15.16	15.55	17.01	9.84	10.24	10.92	11.32	12.77
	12H	14.16	14.52	15.26	15.62	17.08	9.90	10.26	11.00	11.35	12.81
8H	4H	13.36	13.75	14.44	14.83	16.29	9.58	9.98	10.66	11.05	12.51
	6H	13.92	14.24	15.02	15.36	16.82	10.09	10.41	11.19	11.54	12.99
	8H	14.13	14.42	15.24	15.52	16.99	10.27	10.56	11.38	11.66	13.14
	12H	14.26	14.51	15.38	15.61	17.13	10.38	10.64	11.50	11.73	13.25
12H	4H	13.31	13.66	14.41	14.76	16.22	9.58	9.94	10.68	11.03	12.49
	6H	13.89	14.18	15.00	15.28	16.76	10.13	10.42	11.25	11.53	13.00
	8H	14.11	14.36	15.22	15.46	16.97	10.34	10.59	11.45	11.69	13.20