

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: P917342

Luminaire Tested: DFN2DIP-SQ3F0-060D080US930-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P917342
REPORT IS A COMBINATION OF REPORTS P899938 AND P896733
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-060D080US930-RLLFLL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

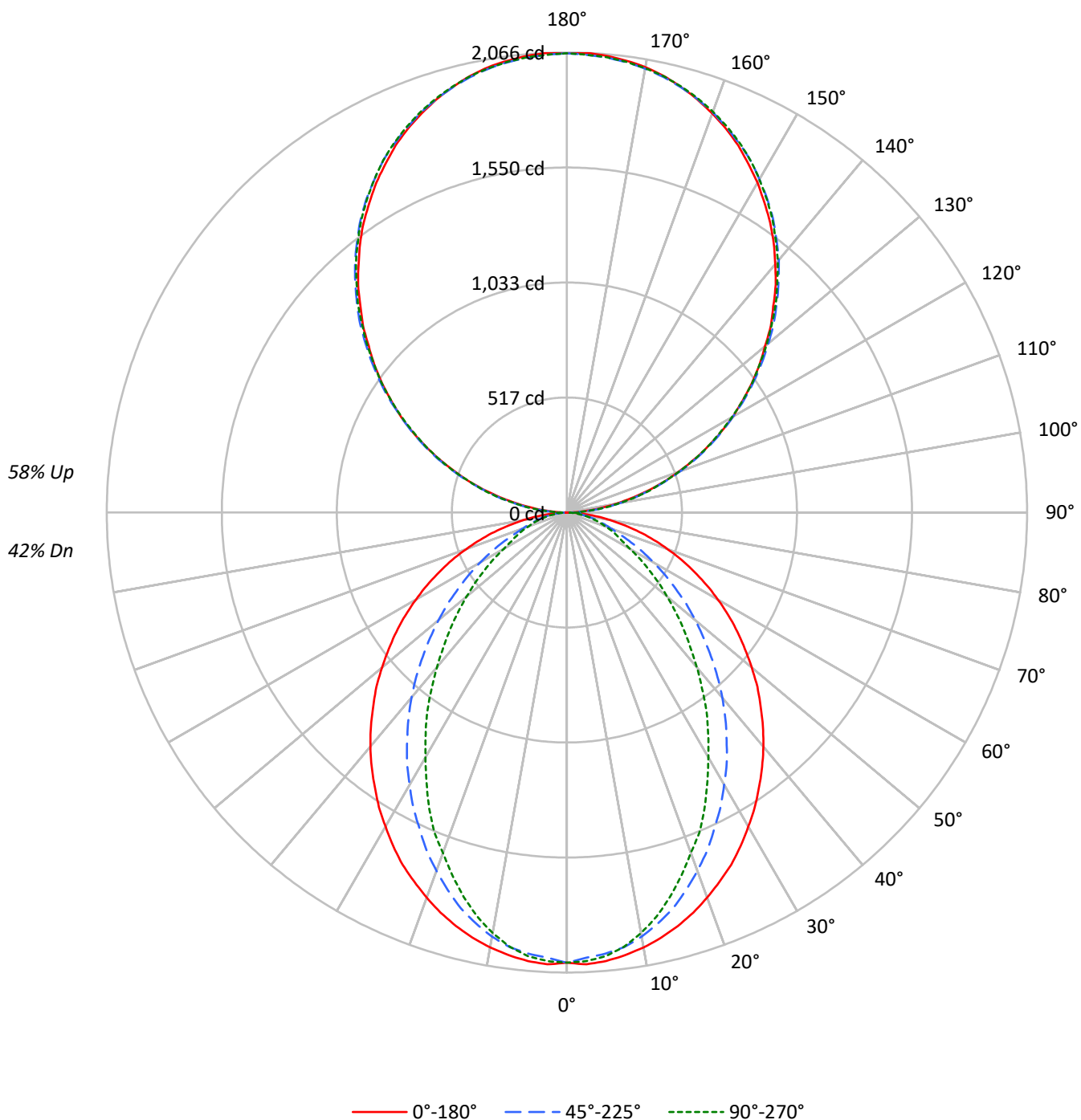
Lumens per Lamp: N/A
Luminaire Lumens: 9930.3 lumens
Efficiency: N/A
Efficacy: 87.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 113.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9971
Total Harmonic Distortion (THDi): 0.049
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P917342

CATALOG NUMBER: DFN2DIP-SQ3F0-060D080US930-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P917342

CATALOG NUMBER: DFN2DIP-SQ3F0-060D080US930-RLFL

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2317	2317	2317
5°	2319	2278	2294
10°	2294	2232	2218
15°	2261	2157	2102
20°	2218	2054	1960
25°	2174	1938	1823
30°	2115	1820	1649
35°	2057	1693	1496
40°	1998	1562	1321
45°	1930	1417	1163
50°	1859	1271	1008
55°	1784	1114	859
60°	1699	951	706
65°	1600	786	635
70°	1479	631	573
75°	1328	553	520
80°	1110	459	449
85°	753	299	332

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2076 cd/sqm

TEST NUMBER: P917342

CATALOG NUMBER: DFN2DIP-SQ3F0-060D080US930-RLFL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	189.5	1.9
10°-20°	520.2	5.2
20°-30°	730.3	7.4
30°-40°	796.1	8.0
40°-50°	731.7	7.4
50°-60°	574.6	5.8
60°-70°	374.0	3.8
70°-80°	192.5	1.9
80°-90°	55.0	0.6
90°-100°	127.6	1.3
100°-110°	405.6	4.1
110°-120°	694.1	7.0
120°-130°	912.8	9.2
130°-140°	1024.6	10.3
140°-150°	1004.7	10.1
150°-160°	842.8	8.5
160°-170°	558.9	5.6
170°-180°	195.4	2.0
0°-30°	1439.9	14.5
0°-40°	2236.0	22.5
0°-60°	3542.3	35.7
0°-90°	4163.9	41.9
90°-120°	1227.3	12.4
90°-150°	4169.4	42.0
90°-180°	5766.0	58.1
0°-180°	9930.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2022	2022	2022	2022	2022	
5°	2022	2013	1989	2005	2000	192
15°	1923	1903	1841	1806	1788	542
25°	1746	1687	1566	1491	1464	803
35°	1504	1411	1250	1134	1094	941
45°	1230	1107	915	785	741	950
55°	935	792	595	485	450	835
65°	631	483	318	256	251	626
75°	337	208	146	134	132	356
85°	79	40	35	35	35	90
90°	2	22	61	57	59	10
95°	91	108	111	111	108	101
105°	374	379	383	386	386	395
115°	696	706	703	702	696	689
125°	1013	1029	1024	1018	1016	905
135°	1310	1330	1333	1332	1326	1013
145°	1591	1603	1613	1615	1608	994
155°	1819	1824	1830	1838	1833	837
165°	1979	1977	1977	1989	1981	558
175°	2059	2054	2050	2063	2052	196
180°	2063	2063	2063	2063	2063	

TEST NUMBER: P917342

CATALOG NUMBER: DFN2DIP-SQ3F0-060D080US930-RLFL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2021.8	2021.8	2021.8	2021.8	2021.8
2.5°	2030.9	2021.8	2001.6	2020.0	2016.3
5°	2021.8	2012.6	1988.8	2005.3	1999.8
7.5°	2005.3	1994.4	1968.8	1976.0	1966.8
10°	1983.3	1970.5	1934.1	1928.4	1917.5
12.5°	1956.0	1939.4	1889.9	1879.1	1858.9
15°	1923.0	1902.7	1840.6	1805.9	1787.6
17.5°	1884.6	1855.2	1778.3	1738.1	1708.9
20°	1840.6	1803.9	1712.5	1666.9	1626.5
22.5°	1793.1	1750.9	1644.8	1582.7	1555.3
25°	1745.6	1686.9	1566.2	1491.3	1463.7
27.5°	1688.9	1626.5	1493.0	1407.0	1364.9
30°	1628.5	1558.8	1412.4	1319.2	1269.7
32.5°	1569.9	1485.6	1335.8	1225.9	1180.1
35°	1504.1	1410.7	1249.8	1134.4	1094.0
37.5°	1440.0	1339.2	1169.2	1042.8	997.2
40°	1372.2	1262.6	1084.9	955.0	907.5
42.5°	1302.8	1185.7	1000.9	865.4	819.8
45°	1229.6	1106.8	914.9	784.8	740.9
47.5°	1160.1	1030.2	832.6	702.5	662.3
50°	1083.2	953.3	752.0	625.7	587.4
52.5°	1008.0	870.8	675.1	554.4	519.7
55°	934.9	792.2	594.6	484.9	450.1
57.5°	860.0	713.5	523.3	420.9	391.5
60°	783.1	636.7	448.3	355.1	325.7
62.5°	708.2	561.8	384.2	296.4	281.8
65°	631.3	483.0	318.4	256.2	250.6
67.5°	558.1	409.8	256.2	225.0	219.6
70°	481.2	338.5	212.1	194.0	186.5
72.5°	408.1	272.6	177.4	162.9	159.1
75°	336.6	208.5	146.3	133.5	131.8
77.5°	265.4	148.1	115.3	107.9	104.3
80°	199.3	106.2	87.7	80.6	80.6
82.5°	139.0	71.4	60.3	56.7	56.7
85°	78.6	40.2	34.7	34.7	34.7
87.5°	29.4	14.6	14.6	12.8	12.8
90°	1.9	22.4	61.0	57.2	59.1
92.5°	38.6	52.3	54.1	55.9	55.9
95°	90.8	108.2	111.3	111.3	108.2
97.5°	151.2	167.3	174.1	174.1	174.1
100°	220.8	235.1	240.0	240.0	238.1
102.5°	294.2	304.8	311.5	313.4	311.5
105°	374.4	379.4	383.1	386.2	386.2
107.5°	454.0	461.5	461.5	462.7	454.0
110°	531.1	541.0	541.0	541.0	536.1

TEST NUMBER: P917342

CATALOG NUMBER: DFN2DIP-SQ3F0-060D080US930-RLFL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	614.4	625.0	623.1	618.2	614.4
115°	696.5	706.5	703.4	701.5	696.5
117.5°	778.0	791.7	782.9	778.0	773.0
120°	860.1	873.8	860.1	860.1	854.4
122.5°	934.7	952.1	943.4	938.4	934.7
125°	1013.0	1028.6	1023.6	1018.0	1016.2
127.5°	1089.6	1108.8	1102.0	1094.5	1089.6
130°	1161.1	1183.4	1180.3	1176.6	1169.8
132.5°	1241.3	1258.7	1260.0	1251.2	1246.3
135°	1310.3	1329.6	1333.3	1331.5	1326.5
137.5°	1387.4	1403.0	1406.1	1404.8	1397.3
140°	1455.2	1470.7	1479.4	1479.4	1472.6
142.5°	1524.9	1540.4	1545.4	1547.3	1540.4
145°	1590.8	1603.2	1613.1	1615.0	1608.2
147.5°	1649.8	1665.4	1672.8	1676.0	1669.2
150°	1710.8	1721.3	1728.2	1733.8	1728.2
152.5°	1764.9	1775.5	1784.2	1791.0	1784.2
155°	1819.0	1824.0	1829.6	1838.3	1832.7
157.5°	1865.6	1869.4	1872.5	1884.9	1876.2
160°	1907.3	1911.1	1912.9	1923.5	1916.0
162.5°	1945.9	1945.9	1947.7	1959.6	1950.8
165°	1978.8	1976.9	1976.9	1989.4	1980.7
167.5°	2008.7	2003.1	2003.1	2015.5	2006.8
170°	2031.1	2026.1	2024.2	2036.7	2026.1
172.5°	2046.6	2041.7	2039.8	2052.2	2041.7
175°	2059.0	2054.1	2050.3	2062.8	2052.2
177.5°	2065.9	2060.9	2057.2	2067.8	2057.2
180°	2062.8	2062.8	2062.8	2062.8	2062.8

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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	9.23	9.99	10.26	11.03	12.41	5.19	5.96	6.22	6.99	8.37
	3H	10.89	11.58	11.93	12.62	14.03	6.37	7.05	7.41	8.09	9.50
	4H	11.50	12.15	12.55	13.19	14.60	6.81	7.46	7.86	8.50	9.91
	6H	11.91	12.51	12.97	13.56	14.98	7.12	7.72	8.18	8.77	10.19
	8H	12.03	12.60	13.10	13.67	15.09	7.21	7.78	8.27	8.84	10.26
	12H	12.09	12.63	13.16	13.69	15.13	7.24	7.79	8.32	8.84	10.28
4H	2H	9.24	9.89	10.29	10.93	12.34	5.77	6.42	6.83	7.47	8.88
	3H	11.05	11.59	12.12	12.67	14.09	7.11	7.65	8.18	8.72	10.15
	4H	11.74	12.24	12.81	13.30	14.74	7.65	8.15	8.72	9.21	10.66
	6H	12.25	12.67	13.33	13.76	15.20	8.06	8.48	9.14	9.57	11.01
	8H	12.42	12.81	13.50	13.89	15.35	8.18	8.58	9.26	9.66	11.11
	12H	12.51	12.87	13.61	13.96	15.42	8.24	8.60	9.34	9.69	11.15
8H	4H	11.70	12.10	12.78	13.18	14.63	7.92	8.32	9.00	9.40	10.85
	6H	12.26	12.59	13.36	13.71	15.16	8.43	8.76	9.53	9.88	11.33
	8H	12.47	12.76	13.58	13.86	15.34	8.62	8.90	9.73	10.01	11.48
	12H	12.61	12.86	13.72	13.96	15.47	8.73	8.98	9.84	10.08	11.59
12H	4H	11.65	12.01	12.75	13.10	14.56	7.92	8.28	9.02	9.37	10.84
	6H	12.23	12.52	13.34	13.62	15.10	8.48	8.77	9.59	9.87	11.34
	8H	12.45	12.70	13.56	13.80	15.31	8.68	8.93	9.79	10.03	11.54