

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: P920812

Luminaire Tested: DFN2DIP-TR3F0-060D040US935-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P920812
REPORT IS A COMBINATION OF REPORTS P900292 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-060D040US935-RLLFLL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

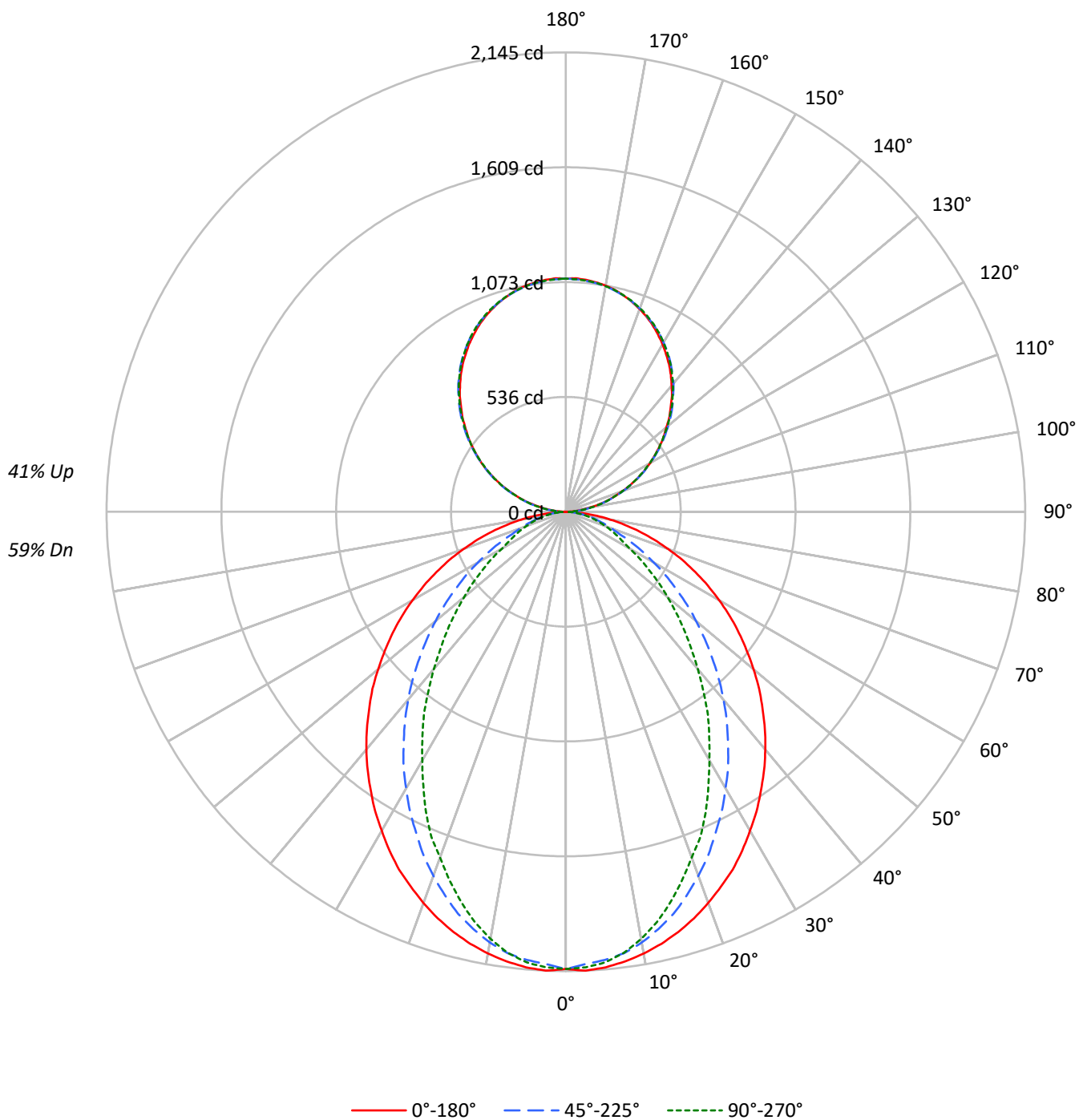
Lumens per Lamp: N/A
Luminaire Lumens: 7439.0 lumens
Efficiency: N/A
Efficacy: 85.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 86.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P920812

CATALOG NUMBER: DFN2DIP-TR3F0-060D040US935-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P920812

CATALOG NUMBER: DFN2DIP-TR3F0-060D040US935-RLLFLL

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	109	109	109	109	102	102	102	102	88	88	88	76	76	76	64	64	64
1	100	96	92	89	94	90	87	84	78	76	74	68	66	64	58	57	56
2	92	85	79	74	86	79	74	70	69	65	62	60	57	55	52	50	48
3	84	75	68	62	78	70	64	59	62	57	53	54	50	47	46	44	41
4	77	67	59	53	72	63	56	51	55	50	46	48	44	41	42	39	36
5	71	60	52	46	66	56	49	44	50	44	40	44	39	36	38	34	32
6	66	54	46	40	61	51	44	39	45	39	35	40	35	32	35	31	28
7	61	49	41	36	57	46	39	34	41	35	31	36	32	28	32	28	25
8	57	45	37	32	53	42	35	30	38	32	28	33	29	25	29	26	23
9	53	41	34	29	50	39	32	27	35	29	25	31	26	23	27	24	21
10	50	38	31	26	47	36	29	25	32	27	23	29	24	21	25	22	19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2661	2661	2661
5°	2663	2616	2633
10°	2636	2563	2546
15°	2598	2476	2412
20°	2548	2357	2248
25°	2498	2224	2090
30°	2430	2088	1890
35°	2364	1942	1714
40°	2296	1791	1513
45°	2218	1624	1330
50°	2137	1456	1152
55°	2052	1276	982
60°	1954	1089	806
65°	1841	898	724
70°	1703	721	652
75°	1531	630	590
80°	1281	522	506
85°	871	338	370

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2218 cd/sqm

TEST NUMBER: P920812

CATALOG NUMBER: DFN2DIP-TR3F0-060D040US935-RLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	200.1	2.7
10°-20°	549.3	7.4
20°-30°	771.2	10.4
30°-40°	840.7	11.3
40°-50°	772.7	10.4
50°-60°	606.8	8.2
60°-70°	395.0	5.3
70°-80°	203.3	2.7
80°-90°	55.0	0.7
90°-100°	67.4	0.9
100°-110°	214.2	2.9
110°-120°	366.5	4.9
120°-130°	482.0	6.5
130°-140°	541.0	7.3
140°-150°	530.5	7.1
150°-160°	445.0	6.0
160°-170°	295.1	4.0
170°-180°	103.2	1.4
0°-30°	1520.7	20.4
0°-40°	2361.4	31.7
0°-60°	3740.9	50.3
0°-90°	4394.2	59.1
90°-120°	648.0	8.7
90°-150°	2201.5	29.6
90°-180°	3045.0	40.9
0°-180°	7439.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2135	2135	2135	2135	2135	
5°	2135	2126	2100	2118	2112	202
15°	2031	2009	1944	1907	1888	572
25°	1843	1782	1654	1575	1546	848
35°	1588	1490	1320	1198	1155	994
45°	1298	1169	966	829	782	1003
55°	987	837	628	512	475	882
65°	667	510	336	271	265	661
75°	356	220	154	141	139	376
85°	83	42	37	37	37	95
90°	1	12	32	30	31	7
95°	48	57	59	59	57	53
105°	198	200	202	204	204	209
115°	368	373	371	370	368	364
125°	535	543	540	538	537	478
135°	692	702	704	703	700	535
145°	840	846	852	853	849	525
155°	960	963	966	971	968	442
165°	1045	1044	1044	1050	1046	295
175°	1087	1085	1083	1089	1084	103
180°	1089	1089	1089	1089	1089	

TEST NUMBER: P920812

CATALOG NUMBER: DFN2DIP-TR3F0-060D040US935-RLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2135.1	2135.1	2135.1	2135.1	2135.1
2.5°	2144.7	2135.1	2113.7	2133.2	2129.3
5°	2135.1	2125.5	2100.2	2117.7	2111.9
7.5°	2117.7	2106.2	2079.1	2086.7	2077.1
10°	2094.5	2080.9	2042.5	2036.5	2025.0
12.5°	2065.6	2048.1	1995.9	1984.4	1963.1
15°	2030.7	2009.4	1943.8	1907.1	1887.8
17.5°	1990.2	1959.2	1878.0	1835.6	1804.7
20°	1943.8	1905.0	1808.5	1760.3	1717.7
22.5°	1893.6	1849.1	1737.0	1671.4	1642.4
25°	1843.4	1781.5	1654.0	1574.9	1545.7
27.5°	1783.6	1717.7	1576.7	1485.8	1441.4
30°	1719.8	1646.1	1491.6	1393.2	1340.9
32.5°	1657.9	1568.9	1410.7	1294.6	1246.2
35°	1588.4	1489.8	1319.8	1198.0	1155.4
37.5°	1520.7	1414.3	1234.8	1101.3	1053.1
40°	1449.1	1333.3	1145.7	1008.6	958.4
42.5°	1375.8	1252.1	1057.0	913.9	865.7
45°	1298.5	1168.9	966.2	828.8	782.5
47.5°	1225.1	1088.0	879.3	741.9	699.5
50°	1143.9	1006.8	794.2	660.7	620.3
52.5°	1064.5	919.6	713.0	585.5	548.8
55°	987.3	836.6	627.9	512.1	475.4
57.5°	908.2	753.5	552.7	444.4	413.5
60°	827.0	672.4	473.4	375.0	344.0
62.5°	747.9	593.3	405.7	313.1	297.6
65°	666.7	510.1	336.2	270.6	264.7
67.5°	589.4	432.7	270.6	237.6	231.9
70°	508.2	357.5	224.0	204.8	197.0
72.5°	430.9	287.8	187.4	172.0	168.1
75°	355.5	220.2	154.5	141.0	139.2
77.5°	280.3	156.4	121.7	114.0	110.1
80°	210.5	112.1	92.6	85.1	85.1
82.5°	146.8	75.4	63.7	59.8	59.8
85°	83.0	42.4	36.7	36.7	36.7
87.5°	31.0	15.4	15.4	13.5	13.5
90°	0.9	11.8	32.2	30.2	31.2
92.5°	20.3	27.6	28.6	29.5	29.5
95°	48.0	57.2	58.8	58.8	57.2
97.5°	79.8	88.3	92.0	92.0	92.0
100°	116.6	124.2	126.7	126.7	125.8
102.5°	155.3	160.9	164.5	165.5	164.5
105°	197.7	200.3	202.2	203.9	203.9
107.5°	239.7	243.7	243.7	244.3	239.7
110°	280.4	285.7	285.7	285.7	283.1



TEST NUMBER: P920812

CATALOG NUMBER: DFN2DIP-TR3F0-060D040US935-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	324.4	330.0	329.0	326.4	324.4
115°	367.7	373.1	371.3	370.4	367.7
117.5°	410.8	418.0	413.5	410.8	408.2
120°	454.2	461.3	454.2	454.2	451.2
122.5°	493.5	502.7	498.2	495.5	493.5
125°	534.9	543.1	540.5	537.5	536.6
127.5°	575.3	585.5	581.9	577.9	575.3
130°	613.0	624.9	623.3	621.3	617.7
132.5°	655.4	664.6	665.3	660.6	658.1
135°	691.9	702.1	704.0	703.0	700.4
137.5°	732.6	740.8	742.4	741.7	737.9
140°	768.4	776.6	781.2	781.2	777.6
142.5°	805.2	813.4	816.0	817.0	813.4
145°	840.0	846.5	851.8	852.8	849.2
147.5°	871.2	879.3	883.3	884.9	881.3
150°	903.4	909.0	912.6	915.5	912.6
152.5°	931.9	937.5	942.1	945.7	942.1
155°	960.4	963.1	966.0	970.7	967.7
157.5°	985.2	987.0	988.7	995.3	990.7
160°	1007.1	1009.1	1010.0	1015.6	1011.7
162.5°	1027.4	1027.4	1028.5	1034.7	1030.1
165°	1044.9	1043.9	1043.9	1050.4	1045.9
167.5°	1060.7	1057.6	1057.6	1064.3	1059.6
170°	1072.5	1069.8	1068.8	1075.4	1069.8
172.5°	1080.6	1078.1	1077.0	1083.7	1078.1
175°	1087.3	1084.6	1082.6	1089.2	1083.7
177.5°	1090.9	1088.2	1086.2	1091.8	1086.2
180°	1089.2	1089.2	1089.2	1089.2	1089.2

TEST NUMBER: P920812

CATALOG NUMBER: DFN2DIP-TR3F0-060D040US935-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	11.30	12.21	12.18	13.11	14.25	7.28	8.19	8.16	9.09	10.22
	3H	12.97	13.79	13.87	14.70	15.86	8.47	9.28	9.36	10.19	11.35
	4H	13.58	14.35	14.49	15.26	16.44	8.92	9.69	9.83	10.60	11.77
	6H	14.00	14.71	14.92	15.63	16.81	9.24	9.94	10.16	10.86	12.05
	8H	14.12	14.80	15.05	15.73	16.92	9.33	10.00	10.26	10.94	12.12
	12H	14.18	14.82	15.12	15.75	16.96	9.37	10.01	10.31	10.94	12.15
4H	2H	11.33	12.10	12.24	13.01	14.18	7.88	8.65	8.79	9.56	10.73
	3H	13.15	13.79	14.08	14.74	15.92	9.23	9.87	10.15	10.81	12.00
	4H	13.84	14.42	14.78	15.36	16.58	9.77	10.36	10.71	11.30	12.51
	6H	14.35	14.85	15.30	15.82	17.03	10.19	10.69	11.14	11.66	12.87
	8H	14.52	14.99	15.48	15.95	17.18	10.32	10.79	11.27	11.74	12.97
	12H	14.62	15.04	15.59	16.01	17.24	10.38	10.81	11.35	11.78	13.01
8H	4H	13.81	14.28	14.77	15.24	16.47	10.05	10.52	11.01	11.48	12.71
	6H	14.37	14.76	15.35	15.76	16.98	10.57	10.95	11.55	11.95	13.18
	8H	14.58	14.92	15.57	15.91	17.16	10.75	11.10	11.74	12.08	13.33
	12H	14.72	15.02	15.71	16.00	17.29	10.87	11.17	11.86	12.15	13.45
12H	4H	13.77	14.19	14.74	15.16	16.40	10.06	10.48	11.03	11.46	12.69
	6H	14.35	14.69	15.33	15.68	16.92	10.62	10.96	11.60	11.94	13.19
	8H	14.56	14.87	15.55	15.85	17.14	10.82	11.12	11.81	12.10	13.40