

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: P920895

Luminaire Tested: DFN2DIP-TR3F0-090D050US935-RLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P920895
REPORT IS A COMBINATION OF REPORTS P901832 AND P898751
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-090D050US935-RLLONL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

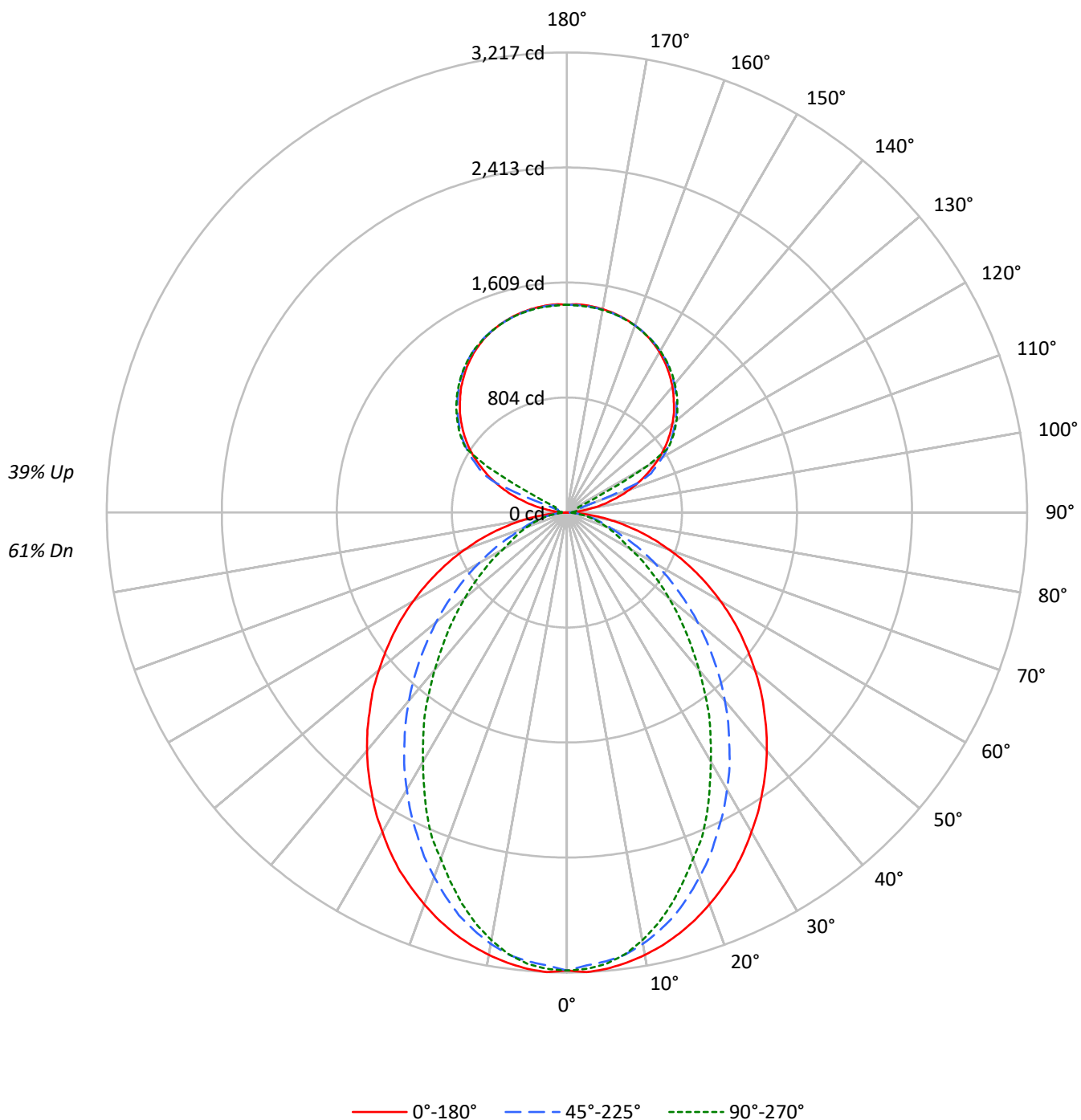
Lumens per Lamp: N/A
Luminaire Lumens: 10848.6 lumens
Efficiency: N/A
Efficacy: 82.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 132
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
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
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	110	110	110	110	103	103	103	103	89	89	89	77	77	77	66	66	66
1	101	97	93	90	94	91	87	84	79	77	75	69	67	65	59	58	57
2	92	85	79	74	86	80	75	70	70	66	63	61	58	56	53	51	49
3	85	75	68	62	79	71	65	59	62	58	53	55	51	48	47	45	42
4	78	67	59	53	73	63	56	51	56	50	46	49	45	41	43	40	37
5	72	60	52	46	67	57	50	44	50	45	40	44	40	36	39	35	33
6	66	54	46	41	62	51	44	39	46	40	35	40	36	32	35	32	29
7	61	49	41	36	57	47	39	34	42	36	32	37	32	29	33	29	26
8	57	45	37	32	53	43	36	31	38	32	28	34	29	26	30	26	23
9	53	41	34	29	50	39	32	28	35	30	26	31	27	23	28	24	21
10	50	38	31	26	47	36	30	25	33	27	23	29	25	21	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3991	3991	3991
5°	3995	3924	3950
10°	3953	3844	3819
15°	3897	3714	3618
20°	3823	3535	3372
25°	3746	3336	3134
30°	3645	3132	2834
35°	3546	2913	2571
40°	3445	2687	2269
45°	3327	2436	1995
50°	3205	2184	1729
55°	3078	1914	1472
60°	2931	1633	1209
65°	2761	1348	1085
70°	2555	1081	978
75°	2296	946	885
80°	1921	783	758
85°	1307	507	555

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3327 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	300.2	2.8
10°-20°	824.0	7.6
20°-30°	1156.9	10.7
30°-40°	1261.0	11.6
40°-50°	1159.0	10.7
50°-60°	910.3	8.4
60°-70°	592.5	5.5
70°-80°	305.0	2.8
80°-90°	80.4	0.7
90°-100°	47.9	0.4
100°-110°	178.6	1.6
110°-120°	473.7	4.4
120°-130°	785.6	7.2
130°-140°	834.5	7.7
140°-150°	775.6	7.1
150°-160°	623.5	5.7
160°-170°	401.8	3.7
170°-180°	138.3	1.3
0°-30°	2281.0	21.0
0°-40°	3542.0	32.6
0°-60°	5611.3	51.7
0°-90°	6589.2	60.7
90°-120°	700.2	6.5
90°-150°	3095.8	28.5
90°-180°	4259.0	39.3
0°-180°	10848.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3203	3203	3203	3203	3203	
5°	3203	3188	3150	3176	3168	304
15°	3046	3014	2916	2861	2832	858
25°	2765	2672	2481	2362	2319	1272
35°	2383	2235	1980	1797	1733	1491
45°	1948	1753	1449	1243	1174	1504
55°	1481	1255	942	768	713	1323
65°	1000	765	504	406	397	991
75°	533	330	232	212	209	564
85°	124	64	55	55	55	143
90°	1	13	21	26	28	10
95°	68	34	41	46	45	81
105°	320	351	64	76	80	342
115°	604	622	649	162	86	595
125°	855	868	888	896	899	762
135°	1058	1074	1084	1094	1092	817
145°	1227	1226	1244	1251	1246	767
155°	1351	1342	1354	1360	1352	622
165°	1423	1417	1420	1428	1420	402
175°	1456	1449	1451	1458	1448	139
180°	1453	1453	1453	1453	1453	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3202.7	3202.7	3202.7	3202.7	3202.7
2.5°	3217.1	3202.7	3170.6	3199.9	3194.0
5°	3202.7	3188.2	3150.4	3176.5	3167.9
7.5°	3176.5	3159.3	3118.7	3130.1	3115.6
10°	3141.8	3121.5	3063.7	3054.7	3037.5
12.5°	3098.4	3072.3	2993.9	2976.6	2944.6
15°	3046.1	3014.2	2915.8	2860.7	2831.8
17.5°	2985.3	2938.8	2817.0	2753.4	2707.0
20°	2915.8	2857.7	2712.7	2640.5	2576.5
22.5°	2840.4	2773.7	2605.5	2507.1	2463.7
25°	2765.1	2672.2	2481.0	2362.2	2318.6
27.5°	2675.3	2576.5	2365.0	2228.8	2162.1
30°	2579.6	2469.3	2237.4	2089.8	2011.4
32.5°	2486.7	2353.3	2115.9	1941.9	1869.3
35°	2382.6	2234.6	1979.7	1797.1	1733.1
37.5°	2281.0	2121.5	1852.1	1651.9	1579.7
40°	2173.8	2000.0	1718.6	1512.9	1437.6
42.5°	2063.6	1878.3	1585.4	1370.9	1298.6
45°	1947.7	1753.4	1449.2	1243.2	1173.7
47.5°	1837.6	1631.9	1318.9	1112.8	1049.2
50°	1715.9	1510.1	1191.3	991.1	930.5
52.5°	1596.9	1379.5	1069.5	878.2	823.2
55°	1480.9	1254.9	941.8	768.2	713.1
57.5°	1362.3	1130.4	829.1	666.7	620.3
60°	1240.4	1008.6	710.1	562.4	516.0
62.5°	1121.8	889.9	608.6	469.6	446.5
65°	1000.0	765.1	504.3	405.9	397.0
67.5°	884.1	649.1	405.9	356.4	347.8
70°	762.3	536.3	336.1	307.2	295.5
72.5°	646.4	431.7	281.0	258.0	252.2
75°	533.2	330.3	231.9	211.5	208.8
77.5°	420.3	234.6	182.6	171.0	165.1
80°	315.8	168.2	139.0	127.6	127.6
82.5°	220.2	113.1	95.7	89.8	89.8
85°	124.5	63.6	55.0	55.0	55.0
87.5°	46.4	23.1	23.1	20.3	20.3
90°	1.0	12.6	21.0	26.3	28.3
92.5°	26.3	22.1	25.2	27.4	28.3
95°	68.3	33.6	41.0	46.3	45.2
97.5°	123.0	36.9	53.6	56.8	57.8
100°	186.1	42.1	59.9	68.3	70.4
102.5°	255.5	253.4	62.1	73.5	76.8
105°	319.6	351.2	64.1	75.7	79.9
107.5°	394.3	420.4	66.3	77.7	82.1
110°	465.8	487.8	184.0	78.9	83.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	533.0	551.9	534.1	80.9	84.1
115°	604.5	622.3	648.7	162.0	86.3
117.5°	666.5	687.5	705.5	555.0	279.7
120°	735.9	751.7	770.6	783.2	641.3
122.5°	794.7	811.6	832.7	839.0	840.1
125°	854.6	868.4	888.4	895.7	898.9
127.5°	909.3	924.0	940.0	950.4	951.4
130°	960.9	977.7	989.2	1000.8	999.9
132.5°	1013.5	1027.2	1038.6	1048.2	1047.1
135°	1057.6	1074.5	1083.8	1094.5	1092.3
137.5°	1103.8	1116.5	1127.0	1137.6	1134.5
140°	1149.0	1157.5	1169.0	1178.4	1173.3
142.5°	1187.0	1194.4	1208.0	1216.3	1211.1
145°	1226.9	1225.8	1243.6	1251.0	1245.8
147.5°	1261.5	1258.3	1276.3	1281.5	1277.4
150°	1295.2	1287.9	1304.7	1311.0	1305.7
152.5°	1323.5	1315.2	1330.9	1337.3	1329.9
155°	1350.9	1341.5	1354.1	1360.4	1352.0
157.5°	1372.9	1364.6	1374.1	1381.5	1372.9
160°	1392.0	1385.6	1392.0	1398.2	1390.9
162.5°	1408.7	1402.5	1407.6	1415.0	1405.6
165°	1423.4	1417.2	1420.3	1427.6	1420.3
167.5°	1435.0	1428.7	1431.9	1439.2	1429.8
170°	1444.5	1438.1	1440.3	1447.6	1438.1
172.5°	1450.8	1444.5	1446.6	1454.0	1444.5
175°	1456.0	1448.6	1450.8	1458.1	1447.6
177.5°	1458.1	1450.8	1451.9	1459.2	1449.7
180°	1452.8	1452.8	1452.8	1452.8	1452.8

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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	12.85	13.78	13.72	14.66	15.77	8.83	9.75	9.69	10.64	11.75
	3H	14.53	15.36	15.41	16.25	17.39	10.02	10.85	10.90	11.74	12.88
	4H	15.13	15.92	16.03	16.81	17.96	10.47	11.25	11.36	12.15	13.30
	6H	15.55	16.27	16.46	17.18	18.34	10.79	11.51	11.70	12.42	13.58
	8H	15.68	16.36	16.59	17.28	18.44	10.88	11.57	11.80	12.49	13.65
	12H	15.74	16.39	16.66	17.31	18.49	10.93	11.58	11.84	12.49	13.68
4H	2H	12.88	13.66	13.78	14.56	15.71	9.43	10.21	10.33	11.11	12.26
	3H	14.71	15.36	15.62	16.29	17.45	10.78	11.43	11.69	12.36	13.52
	4H	15.40	15.99	16.32	16.91	18.10	11.33	11.92	12.25	12.85	14.04
	6H	15.91	16.42	16.84	17.37	18.56	11.75	12.26	12.68	13.21	14.40
	8H	16.08	16.55	17.02	17.50	18.70	11.88	12.35	12.81	13.29	14.50
	12H	16.17	16.60	17.13	17.56	18.77	11.94	12.37	12.90	13.33	14.54
8H	4H	15.37	15.84	16.31	16.79	17.99	11.61	12.09	12.55	13.03	14.23
	6H	15.93	16.32	16.89	17.31	18.51	12.12	12.52	13.09	13.50	14.70
	8H	16.14	16.49	17.11	17.46	18.68	12.31	12.66	13.28	13.63	14.85
	12H	16.28	16.58	17.25	17.55	18.82	12.43	12.74	13.40	13.70	14.97
12H	4H	15.33	15.75	16.28	16.71	17.92	11.62	12.05	12.57	13.01	14.22
	6H	15.90	16.25	16.88	17.23	18.45	12.17	12.52	13.14	13.49	14.71
	8H	16.12	16.43	17.10	17.40	18.66	12.38	12.69	13.36	13.65	14.92