

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: P915318

Luminaire Tested: DFN2DIP-TR3F0-040D080US927-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P915318
REPORT IS A COMBINATION OF REPORTS P900343 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-040D080US927-FLLFLL
Description: 3 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

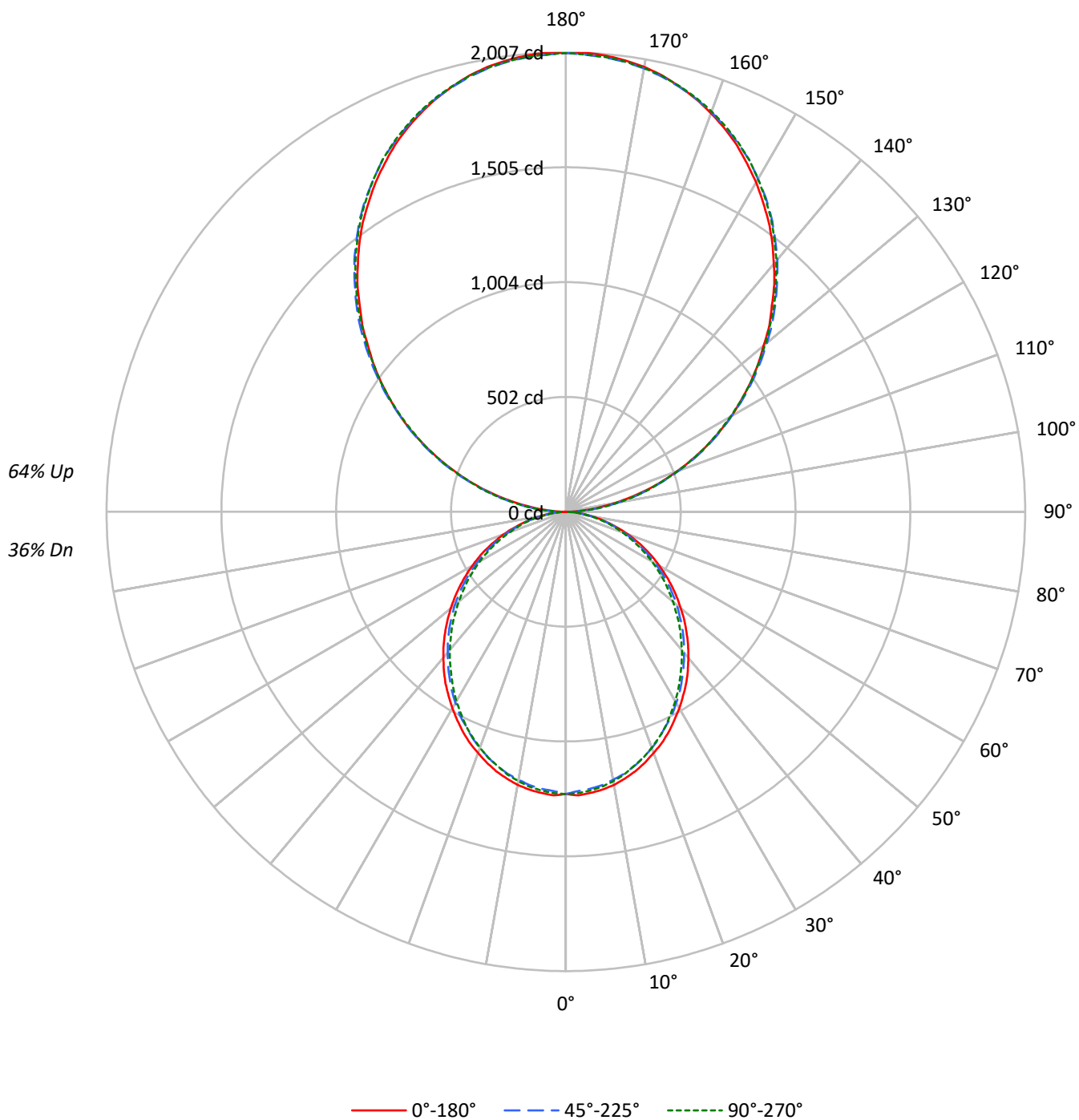
Lumens per Lamp: N/A
Luminaire Lumens: 8745.7 lumens
Efficiency: N/A
Efficacy: 91.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 96.1
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

TEST NUMBER: P915318

CATALOG NUMBER: DFN2DIP-TR3F0-040D080US927-FLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P915318

CATALOG NUMBER: DFN2DIP-TR3F0-040D080US927-FLLFLL

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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	43	43	43
1	95	90	87	83	85	82	79	76	66	64	62	52	50	49	38	37	36
2	86	79	73	68	78	72	66	62	58	54	51	45	43	41	34	32	31
3	79	69	62	56	71	63	57	52	51	47	43	40	37	34	30	28	26
4	72	61	54	48	65	56	49	44	45	40	37	36	32	29	27	24	22
5	66	54	47	41	59	50	43	38	40	35	31	32	28	25	24	22	20
6	61	49	41	35	55	45	38	33	36	31	27	29	25	22	22	19	17
7	56	44	36	31	50	40	33	28	33	28	24	26	22	20	20	17	15
8	52	40	32	27	47	36	30	25	30	25	21	24	20	17	18	16	14
9	48	36	29	24	44	33	27	22	27	22	19	22	18	16	17	14	12
10	45	33	26	21	41	30	24	20	25	20	17	20	17	14	16	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1536	1536	1536
5°	1538	1514	1524
10°	1525	1492	1503
15°	1501	1466	1469
20°	1470	1431	1435
25°	1439	1389	1396
30°	1401	1349	1347
35°	1364	1303	1294
40°	1319	1256	1244
45°	1274	1210	1193
50°	1225	1161	1134
55°	1173	1104	1080
60°	1115	1036	1017
65°	1051	966	944
70°	970	881	864
75°	858	778	789
80°	722	647	648
85°	510	427	418

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 1956 cd/sqm

TEST NUMBER: P915318

CATALOG NUMBER: DFN2DIP-TR3F0-040D080US927-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.0	1.3
10°-20°	326.5	3.7
20°-30°	479.8	5.5
30°-40°	557.3	6.4
40°-50°	556.6	6.4
50°-60°	485.3	5.5
60°-70°	358.8	4.1
70°-80°	203.0	2.3
80°-90°	59.3	0.7
90°-100°	124.0	1.4
100°-110°	394.1	4.5
110°-120°	674.4	7.7
120°-130°	886.9	10.1
130°-140°	995.5	11.4
140°-150°	976.2	11.2
150°-160°	818.9	9.4
160°-170°	543.1	6.2
170°-180°	189.8	2.2
0°-30°	922.4	10.5
0°-40°	1479.7	16.9
0°-60°	2521.7	28.8
0°-90°	3142.7	35.9
90°-120°	1192.5	13.6
90°-150°	4051.1	46.3
90°-180°	5603.0	64.1
0°-180°	8745.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1233	1233	1233	1233	1233	
5°	1233	1228	1215	1225	1222	117
15°	1174	1167	1151	1156	1150	331
25°	1062	1053	1033	1035	1033	489
35°	916	905	886	878	873	572
45°	746	738	720	707	702	576
55°	564	557	543	529	523	505
65°	381	373	362	351	345	376
75°	199	197	191	184	186	213
85°	49	48	46	43	42	54
90°	2	22	59	56	57	9
95°	88	105	108	108	105	98
105°	364	369	372	375	375	384
115°	677	686	683	682	677	669
125°	984	999	995	989	987	880
135°	1273	1292	1296	1294	1289	984
145°	1546	1558	1567	1569	1563	966
155°	1767	1772	1778	1786	1781	813
165°	1923	1921	1921	1933	1924	542
175°	2001	1996	1992	2004	1994	190
180°	2004	2004	2004	2004	2004	

TEST NUMBER: P915318

CATALOG NUMBER: DFN2DIP-TR3F0-040D080US927-FLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1233.0	1233.0	1233.0	1233.0	1233.0
2.5°	1240.2	1234.2	1221.1	1233.0	1230.7
5°	1233.0	1228.3	1215.2	1224.6	1222.4
7.5°	1224.6	1217.6	1204.5	1214.1	1211.7
10°	1211.7	1203.4	1189.2	1198.6	1195.1
12.5°	1193.8	1186.8	1172.6	1178.5	1176.1
15°	1173.7	1166.6	1151.2	1156.0	1150.1
17.5°	1148.8	1141.8	1126.3	1132.2	1126.3
20°	1121.5	1114.4	1097.9	1101.4	1096.8
22.5°	1094.3	1083.6	1068.2	1068.2	1065.8
25°	1062.2	1052.8	1032.7	1035.0	1032.7
27.5°	1026.7	1018.3	1003.1	999.5	993.6
30°	991.2	981.7	963.9	960.4	955.6
32.5°	953.2	946.2	927.2	920.0	915.2
35°	916.5	904.7	885.7	878.5	872.6
37.5°	875.0	864.3	845.3	837.0	831.1
40°	832.3	822.8	803.7	793.2	788.5
42.5°	790.8	781.2	762.4	750.4	743.4
45°	745.8	737.5	719.6	706.7	701.9
47.5°	701.9	693.6	674.6	661.6	654.5
50°	655.6	649.7	633.1	616.5	610.5
52.5°	610.5	602.3	586.9	573.9	565.5
55°	564.4	557.2	543.0	528.8	522.9
57.5°	518.1	512.2	496.7	482.5	477.8
60°	471.8	467.1	450.6	437.5	434.0
62.5°	426.8	418.5	406.7	394.8	390.1
65°	380.6	373.4	361.6	350.9	345.1
67.5°	333.2	327.2	316.6	308.3	303.6
70°	289.3	284.6	273.9	265.5	260.9
72.5°	244.3	239.5	233.6	225.3	221.7
75°	199.2	196.9	190.8	183.8	186.2
77.5°	158.8	154.1	151.7	148.1	144.7
80°	118.6	117.3	114.9	111.5	109.1
82.5°	80.6	80.6	79.5	74.7	74.7
85°	48.6	47.5	46.3	42.6	41.5
87.5°	21.4	19.0	16.6	13.1	11.8
90°	1.8	21.8	59.3	55.6	57.4
92.5°	37.5	50.8	52.6	54.3	54.3
95°	88.2	105.1	108.1	108.1	105.1
97.5°	146.9	162.6	169.2	169.2	169.2
100°	214.5	228.4	233.2	233.2	231.4
102.5°	285.8	296.1	302.7	304.5	302.7
105°	363.8	368.6	372.2	375.3	375.3
107.5°	441.1	448.4	448.4	449.6	441.1
110°	516.0	525.7	525.7	525.7	520.9

TEST NUMBER: P915318

CATALOG NUMBER: DFN2DIP-TR3F0-040D080US927-FLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	597.0	607.3	605.5	600.6	597.0
115°	676.8	686.4	683.4	681.6	676.8
117.5°	755.9	769.2	760.7	755.9	751.1
120°	835.7	849.0	835.7	835.7	830.2
122.5°	908.2	925.1	916.6	911.8	908.2
125°	984.3	999.4	994.6	989.1	987.4
127.5°	1058.7	1077.4	1070.7	1063.5	1058.7
130°	1128.1	1149.9	1146.8	1143.3	1136.6
132.5°	1206.1	1223.0	1224.2	1215.8	1210.9
135°	1273.1	1291.9	1295.5	1293.7	1288.9
137.5°	1348.1	1363.2	1366.2	1365.0	1357.7
140°	1414.0	1429.0	1437.5	1437.5	1430.8
142.5°	1481.6	1496.7	1501.6	1503.4	1496.7
145°	1545.7	1557.7	1567.4	1569.2	1562.6
147.5°	1603.1	1618.2	1625.4	1628.5	1621.8
150°	1662.3	1672.5	1679.2	1684.7	1679.2
152.5°	1714.8	1725.1	1733.6	1740.3	1733.6
155°	1767.4	1772.3	1777.7	1786.1	1780.7
157.5°	1812.7	1816.4	1819.4	1831.4	1823.0
160°	1853.2	1856.9	1858.7	1868.9	1861.7
162.5°	1890.7	1890.7	1892.5	1904.0	1895.5
165°	1922.7	1920.9	1920.9	1933.0	1924.5
167.5°	1951.7	1946.3	1946.3	1958.4	1949.9
170°	1973.5	1968.6	1966.8	1978.9	1968.6
172.5°	1988.6	1983.8	1982.0	1994.0	1983.8
175°	2000.7	1995.8	1992.2	2004.3	1994.0
177.5°	2007.3	2002.5	1998.8	2009.1	1998.8
180°	2004.3	2004.3	2004.3	2004.3	2004.3



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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	7.25	8.00	8.32	9.07	10.53	6.82	7.57	7.89	8.64	10.10
	3H	8.89	9.56	9.97	10.64	12.12	8.42	9.09	9.50	10.17	11.65
	4H	9.47	10.10	10.56	11.18	12.67	9.00	9.63	10.09	10.72	12.20
	6H	9.85	10.44	10.95	11.52	13.02	9.38	9.97	10.48	11.05	12.55
	8H	9.95	10.51	11.05	11.61	13.10	9.48	10.04	10.59	11.14	12.63
	12H	9.99	10.52	11.10	11.61	13.13	9.52	10.05	10.63	11.14	12.65
4H	2H	7.69	8.33	8.79	9.41	10.89	7.35	7.99	8.45	9.07	10.55
	3H	9.54	10.07	10.64	11.18	12.67	9.15	9.68	10.25	10.79	12.28
	4H	10.24	10.73	11.35	11.82	13.34	9.84	10.33	10.95	11.42	12.94
	6H	10.74	11.16	11.85	12.28	13.79	10.33	10.75	11.45	11.87	13.38
	8H	10.88	11.27	12.00	12.38	13.91	10.48	10.87	11.59	11.98	13.50
	12H	10.94	11.30	12.08	12.42	13.95	10.53	10.88	11.66	12.01	13.54
8H	4H	10.42	10.81	11.54	11.93	13.45	10.07	10.46	11.18	11.57	13.09
	6H	11.04	11.36	12.17	12.52	14.04	10.68	11.00	11.82	12.16	13.68
	8H	11.25	11.53	12.39	12.67	14.21	10.89	11.17	12.03	12.31	13.85
	12H	11.37	11.62	12.52	12.75	14.33	10.99	11.24	12.14	12.37	13.95
12H	4H	10.40	10.76	11.53	11.88	13.41	10.05	10.41	11.19	11.53	13.06
	6H	11.06	11.35	12.21	12.48	14.03	10.72	11.00	11.86	12.14	13.68
	8H	11.29	11.54	12.44	12.67	14.25	10.94	11.19	12.09	12.32	13.90