

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: P923467

Luminaire Tested: DFN2DIP-TR3F0-030D050US940-RLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P923467
REPORT IS A COMBINATION OF REPORTS P901820 AND P898751
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-030D050US940-RLLONL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

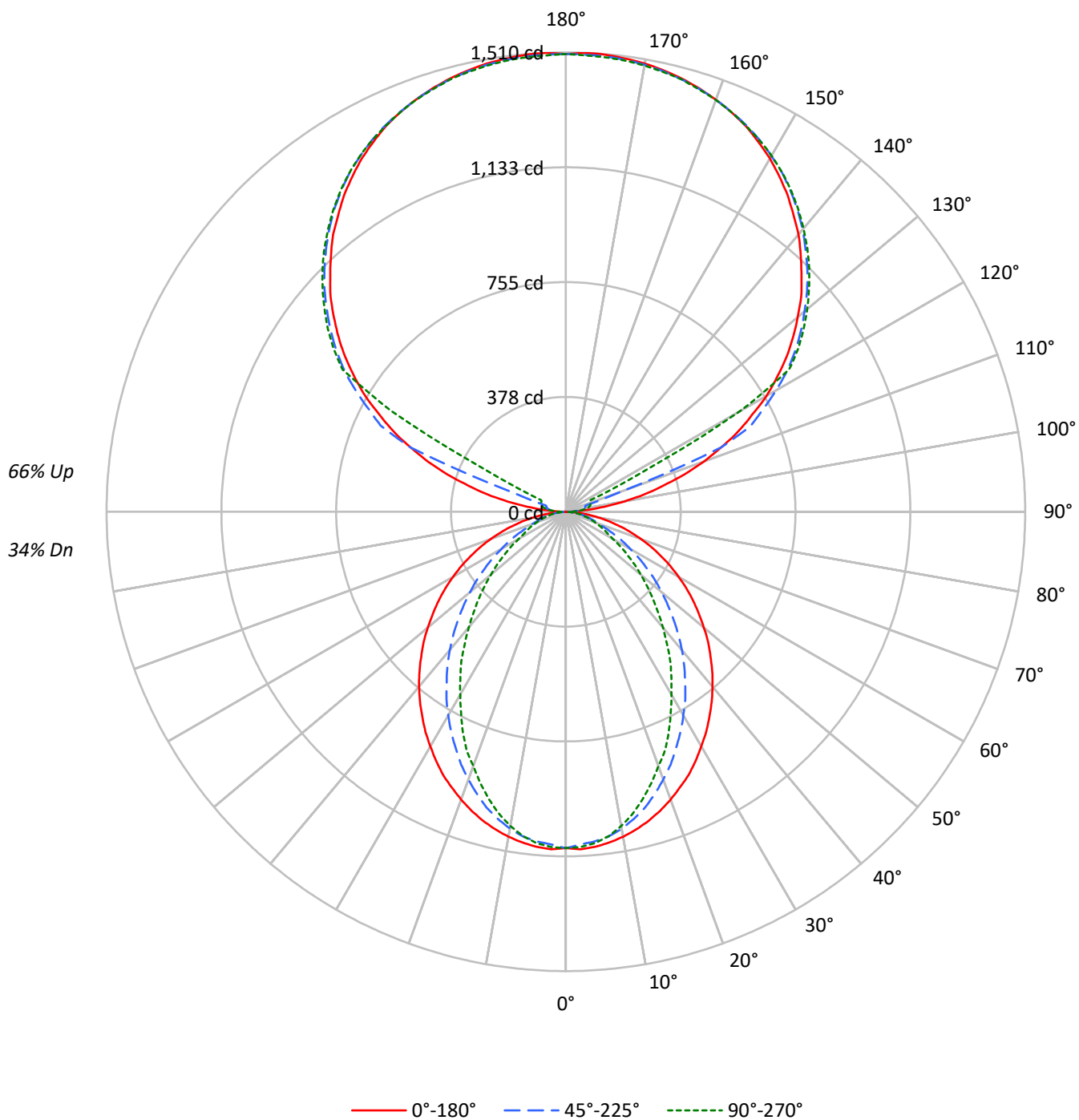
Lumens per Lamp: N/A
Luminaire Lumens: 6687.8 lumens
Efficiency: N/A
Efficacy: 109.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 61.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P923467

CATALOG NUMBER: DFN2DIP-TR3F0-030D050US940-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P923467

CATALOG NUMBER: DFN2DIP-TR3F0-030D050US940-RLLONL

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	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41
1	95	90	87	83	85	82	79	76	66	64	62	51	49	48	37	36	36
2	86	79	74	69	78	72	67	63	58	54	52	45	43	41	33	32	30
3	79	70	63	58	71	63	58	53	51	47	44	40	37	35	30	28	26
4	72	62	55	49	65	56	50	45	46	41	37	36	33	30	27	25	23
5	66	55	48	42	60	50	44	39	41	36	32	32	29	26	24	22	20
6	61	50	42	36	55	45	39	34	37	32	28	29	26	23	22	20	18
7	57	45	37	32	51	41	34	30	34	29	25	27	23	20	20	18	16
8	52	41	33	28	47	37	31	26	31	26	22	24	21	18	19	16	14
9	49	37	30	25	44	34	28	23	28	23	20	22	19	16	17	15	13
10	46	34	27	22	41	31	25	21	26	21	18	21	17	15	16	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1378	1378	1378
5°	1379	1355	1364
10°	1365	1327	1318
15°	1345	1282	1249
20°	1320	1220	1164
25°	1293	1152	1082
30°	1258	1081	979
35°	1224	1006	887
40°	1189	928	783
45°	1149	841	689
50°	1107	754	597
55°	1063	661	508
60°	1012	564	418
65°	953	465	375
70°	882	373	338
75°	792	327	305
80°	664	270	262
85°	451	175	192

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1149 cd/sqm

TEST NUMBER: P923467

CATALOG NUMBER: DFN2DIP-TR3F0-030D050US940-RLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.6	1.5
10°-20°	284.5	4.3
20°-30°	399.4	6.0
30°-40°	435.3	6.5
40°-50°	400.1	6.0
50°-60°	314.2	4.7
60°-70°	204.5	3.1
70°-80°	105.3	1.6
80°-90°	29.5	0.4
90°-100°	49.6	0.7
100°-110°	185.0	2.8
110°-120°	490.6	7.3
120°-130°	813.6	12.2
130°-140°	864.3	12.9
140°-150°	803.2	12.0
150°-160°	645.8	9.7
160°-170°	416.1	6.2
170°-180°	143.2	2.1
0°-30°	787.5	11.8
0°-40°	1222.8	18.3
0°-60°	1937.2	29.0
0°-90°	2276.5	34.0
90°-120°	725.2	10.8
90°-150°	3206.2	47.9
90°-180°	4411.0	66.0
0°-180°	6687.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1106	1106	1106	1106	1106	
5°	1106	1101	1088	1097	1094	105
15°	1052	1040	1007	988	978	296
25°	955	922	856	816	800	439
35°	822	771	683	620	598	515
45°	672	605	500	429	405	519
55°	511	433	325	265	246	457
65°	345	264	174	140	137	342
75°	184	114	80	73	72	195
85°	43	22	19	19	19	49
90°	1	13	22	27	29	6
95°	71	35	42	48	47	84
105°	331	364	66	78	83	354
115°	626	644	672	168	89	616
125°	885	899	920	928	931	789
135°	1095	1113	1122	1134	1131	846
145°	1271	1270	1288	1296	1290	795
155°	1399	1389	1402	1409	1400	645
165°	1474	1468	1471	1478	1471	416
175°	1508	1500	1502	1510	1499	144
180°	1505	1505	1505	1505	1505	

TEST NUMBER: P923467

CATALOG NUMBER: DFN2DIP-TR3F0-030D050US940-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1105.6	1105.6	1105.6	1105.6	1105.6
2.5°	1110.6	1105.6	1094.6	1104.7	1102.7
5°	1105.6	1100.6	1087.6	1096.6	1093.6
7.5°	1096.6	1090.7	1076.7	1080.6	1075.6
10°	1084.6	1077.6	1057.7	1054.5	1048.7
12.5°	1069.6	1060.6	1033.6	1027.6	1016.5
15°	1051.6	1040.5	1006.6	987.6	977.6
17.5°	1030.5	1014.6	972.5	950.6	934.5
20°	1006.6	986.5	936.5	911.6	889.5
22.5°	980.6	957.5	899.5	865.5	850.5
25°	954.6	922.5	856.5	815.5	800.4
27.5°	923.5	889.5	816.5	769.5	746.4
30°	890.6	852.5	772.4	721.5	694.4
32.5°	858.4	812.4	730.5	670.4	645.3
35°	822.5	771.4	683.4	620.4	598.3
37.5°	787.5	732.4	639.4	570.2	545.4
40°	750.5	690.5	593.3	522.3	496.3
42.5°	712.4	648.5	547.3	473.2	448.3
45°	672.4	605.3	500.3	429.2	405.2
47.5°	634.4	563.4	455.3	384.1	362.2
50°	592.4	521.3	411.3	342.1	321.2
52.5°	551.3	476.3	369.3	303.2	284.2
55°	511.2	433.2	325.1	265.2	246.2
57.5°	470.3	390.2	286.2	230.2	214.1
60°	428.2	348.2	245.1	194.1	178.2
62.5°	387.3	307.2	210.1	162.1	154.2
65°	345.2	264.1	174.1	140.1	137.1
67.5°	305.2	224.1	140.1	123.1	120.0
70°	263.1	185.1	116.0	106.0	102.0
72.5°	223.1	149.0	97.0	89.1	87.0
75°	184.0	114.0	80.1	73.0	72.1
77.5°	145.1	81.0	63.0	59.0	57.0
80°	109.1	58.1	48.0	44.1	44.1
82.5°	76.0	39.1	33.0	31.0	31.0
85°	43.0	21.9	19.0	19.0	19.0
87.5°	16.1	7.9	7.9	7.0	7.0
90°	1.1	13.0	21.8	27.3	29.3
92.5°	27.3	22.9	26.1	28.4	29.3
95°	70.7	34.8	42.4	48.0	46.8
97.5°	127.3	38.2	55.5	58.9	59.8
100°	192.8	43.6	62.1	70.7	72.9
102.5°	264.6	262.4	64.3	76.2	79.5
105°	331.0	363.7	66.4	78.4	82.8
107.5°	408.3	435.4	68.7	80.5	85.0
110°	482.4	505.2	190.6	81.7	86.0

TEST NUMBER: P923467

CATALOG NUMBER: DFN2DIP-TR3F0-030D050US940-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	552.1	571.6	553.1	83.8	87.1
115°	626.1	644.5	671.8	167.7	89.3
117.5°	690.3	712.0	730.7	574.8	289.6
120°	762.1	778.5	798.1	811.2	664.1
122.5°	823.0	840.5	862.4	868.9	870.0
125°	885.1	899.4	920.1	927.6	930.9
127.5°	941.7	957.0	973.5	984.3	985.3
130°	995.1	1012.6	1024.5	1036.5	1035.5
132.5°	1049.6	1063.8	1075.7	1085.6	1084.5
135°	1095.4	1112.9	1122.5	1133.5	1131.3
137.5°	1143.2	1156.3	1167.2	1178.1	1174.9
140°	1190.0	1198.8	1210.7	1220.5	1215.1
142.5°	1229.3	1237.0	1251.1	1259.7	1254.3
145°	1270.7	1269.5	1288.0	1295.7	1290.2
147.5°	1306.5	1303.2	1321.8	1327.2	1322.9
150°	1341.4	1333.8	1351.2	1357.7	1352.3
152.5°	1370.7	1362.1	1378.4	1385.0	1377.3
155°	1399.1	1389.4	1402.4	1408.9	1400.3
157.5°	1421.9	1413.3	1423.1	1430.7	1421.9
160°	1441.6	1435.0	1441.6	1448.0	1440.5
162.5°	1458.9	1452.5	1457.9	1465.5	1455.7
165°	1474.2	1467.8	1471.0	1478.5	1471.0
167.5°	1486.2	1479.6	1483.0	1490.6	1480.8
170°	1496.0	1489.4	1491.7	1499.2	1489.4
172.5°	1502.5	1496.0	1498.3	1505.8	1496.0
175°	1508.0	1500.3	1502.5	1510.1	1499.2
177.5°	1510.1	1502.5	1503.7	1511.3	1501.5
180°	1504.7	1504.7	1504.7	1504.7	1504.7

TEST NUMBER: P923467

CATALOG NUMBER: DFN2DIP-TR3F0-030D050US940-RLONL

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	6.50	7.22	7.59	8.30	9.79	2.48	3.20	3.57	4.28	5.76
	3H	8.16	8.80	9.26	9.89	11.40	3.66	4.29	4.75	5.39	6.89
	4H	8.76	9.36	9.87	10.46	11.97	4.10	4.70	5.20	5.80	7.30
	6H	9.17	9.72	10.28	10.82	12.34	4.41	4.96	5.52	6.06	7.58
	8H	9.29	9.82	10.41	10.93	12.44	4.49	5.02	5.61	6.13	7.65
	12H	9.34	9.84	10.46	10.95	12.48	4.53	5.03	5.65	6.14	7.67
4H	2H	6.51	7.11	7.62	8.21	9.71	3.06	3.66	4.17	4.76	6.26
	3H	8.31	8.82	9.43	9.94	11.46	4.39	4.89	5.51	6.01	7.53
	4H	8.99	9.46	10.12	10.57	12.11	4.93	5.39	6.05	6.50	8.04
	6H	9.49	9.89	10.63	11.02	12.56	5.33	5.73	6.47	6.86	8.40
	8H	9.66	10.03	10.79	11.16	12.70	5.46	5.83	6.59	6.95	8.50
	12H	9.75	10.08	10.89	11.22	12.77	5.51	5.85	6.66	6.99	8.54
8H	4H	8.95	9.32	10.08	10.45	11.99	5.19	5.56	6.32	6.69	8.24
	6H	9.50	9.81	10.66	10.98	12.52	5.70	6.01	6.85	7.17	8.72
	8H	9.71	9.98	10.87	11.13	12.69	5.89	6.15	7.04	7.30	8.87
	12H	9.84	10.07	11.00	11.22	12.82	6.00	6.23	7.16	7.37	8.97
12H	4H	8.90	9.23	10.05	10.37	11.92	5.19	5.53	6.34	6.66	8.22
	6H	9.48	9.74	10.64	10.89	12.46	5.75	6.01	6.90	7.16	8.73
	8H	9.69	9.92	10.85	11.06	12.67	5.95	6.18	7.11	7.32	8.93