

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: P923466

Luminaire Tested: DFN2DIP-TR3F0-030D050US940-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P923466
REPORT IS A COMBINATION OF REPORTS P900300 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-030D050US940-RLLFLL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

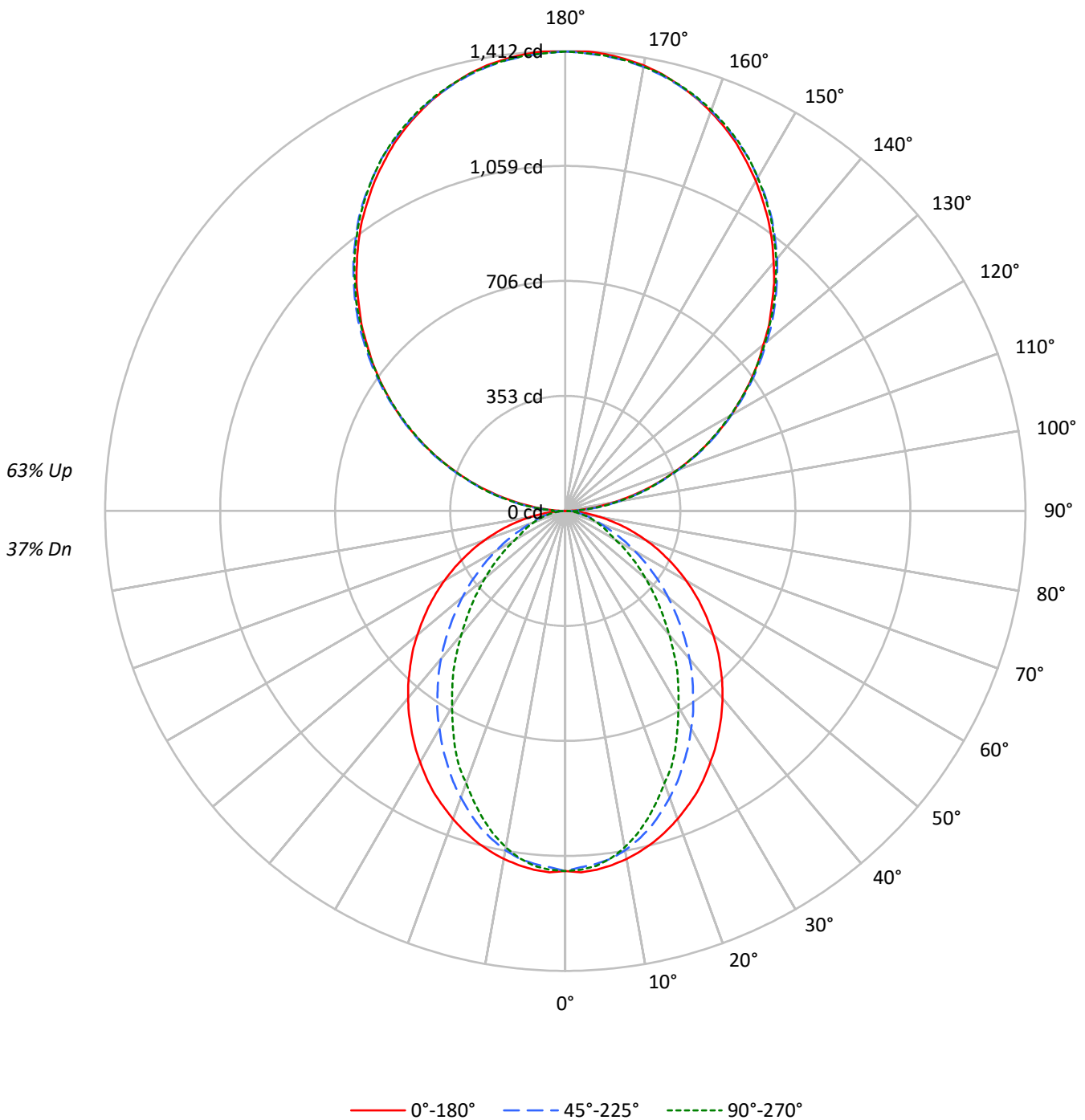
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6219.7 lumens
Efficiency: N/A
Efficacy: 101.8 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

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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				20	
RC	80				70				50				30				10				0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0	
RCR																						
0	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	37				37
1	95	91	87	84	86	83	80	77	67	65	63	53	51	50	39	38	38	32				32
2	87	80	74	69	79	73	68	63	59	56	53	47	44	42	35	34	32	27				27
3	79	70	64	58	72	64	58	53	52	48	45	41	39	36	31	29	28	23				23
4	73	63	55	49	66	57	51	46	47	42	38	37	34	31	28	26	24	20				20
5	67	56	48	42	60	51	44	39	42	37	33	33	30	27	26	23	21	18				18
6	62	50	42	37	56	46	39	34	38	33	29	30	27	24	23	21	19	16				16
7	57	45	38	32	52	41	35	30	34	29	26	28	24	21	21	19	17	14				14
8	53	41	34	29	48	38	31	27	31	26	23	25	22	19	20	17	15	13				13
9	49	38	30	25	45	34	28	24	29	24	20	23	20	17	18	16	14	12				12
10	46	34	27	23	42	32	25	21	26	22	18	22	18	16	17	14	13	11				11

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: 90°
 Vertical Angle: 90°
 Luminance: 1377 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.6	1.7
10°-20°	284.5	4.6
20°-30°	399.4	6.4
30°-40°	435.3	7.0
40°-50°	400.1	6.4
50°-60°	314.2	5.1
60°-70°	204.5	3.3
70°-80°	105.3	1.7
80°-90°	30.9	0.5
90°-100°	87.3	1.4
100°-110°	277.2	4.5
110°-120°	474.5	7.6
120°-130°	624.0	10.0
130°-140°	700.4	11.3
140°-150°	686.8	11.0
150°-160°	576.1	9.3
160°-170°	382.1	6.1
170°-180°	133.5	2.1
0°-30°	787.5	12.7
0°-40°	1222.8	19.7
0°-60°	1937.2	31.1
0°-90°	2277.8	36.6
90°-120°	838.9	13.5
90°-150°	2850.1	45.8
90°-180°	3942.0	63.4
0°-180°	6219.7	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	15	42	39	40	6
95°	62	74	76	76	74	69
105°	256	259	262	264	264	270
115°	476	483	481	480	476	471
125°	692	703	700	696	695	619
135°	896	909	911	910	907	692
145°	1087	1096	1103	1104	1099	679
155°	1243	1247	1251	1257	1253	572
165°	1353	1351	1351	1360	1354	382
175°	1408	1404	1402	1410	1403	134
180°	1410	1410	1410	1410	1410	



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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°	1.2	15.3	41.6	39.1	40.4
92.5°	26.4	35.7	37.0	38.3	38.3
95°	62.1	74.0	76.1	76.1	74.0
97.5°	103.3	114.3	119.0	119.0	119.0
100°	150.9	160.7	164.1	164.1	162.8
102.5°	201.1	208.3	212.9	214.3	212.9
105°	255.9	259.3	261.9	263.9	263.9
107.5°	310.3	315.4	315.4	316.3	310.3
110°	363.0	369.9	369.9	369.9	366.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	420.0	427.2	426.0	422.6	420.0
115°	476.1	483.0	480.8	479.6	476.1
117.5°	531.8	541.2	535.2	531.8	528.4
120°	587.9	597.3	587.9	587.9	584.1
122.5°	638.9	650.9	644.9	641.5	638.9
125°	692.5	703.1	699.7	695.9	694.6
127.5°	744.8	758.0	753.3	748.1	744.8
130°	793.7	809.0	806.8	804.3	799.6
132.5°	848.6	860.4	861.3	855.3	851.9
135°	895.7	908.8	911.4	910.2	906.8
137.5°	948.4	959.0	961.2	960.3	955.2
140°	994.7	1005.4	1011.3	1011.3	1006.7
142.5°	1042.3	1053.0	1056.4	1057.7	1053.0
145°	1087.4	1095.9	1102.7	1104.0	1099.3
147.5°	1127.8	1138.4	1143.5	1145.7	1140.9
150°	1169.5	1176.7	1181.3	1185.2	1181.3
152.5°	1206.5	1213.7	1219.6	1224.3	1219.6
155°	1243.4	1246.8	1250.6	1256.6	1252.8
157.5°	1275.3	1277.8	1280.0	1288.5	1282.5
160°	1303.8	1306.4	1307.6	1314.8	1309.7
162.5°	1330.2	1330.2	1331.4	1339.5	1333.6
165°	1352.7	1351.4	1351.4	1359.9	1354.0
167.5°	1373.1	1369.2	1369.2	1377.8	1371.8
170°	1388.4	1385.0	1383.8	1392.2	1385.0
172.5°	1399.0	1395.6	1394.4	1402.8	1395.6
175°	1407.6	1404.1	1401.6	1410.1	1402.8
177.5°	1412.2	1408.8	1406.2	1413.5	1406.2
180°	1410.1	1410.1	1410.1	1410.1	1410.1



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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	6.81	7.54	7.88	8.61	10.06	2.79	3.52	3.86	4.59	6.04
	3H	8.47	9.13	9.55	10.20	11.67	3.97	4.62	5.04	5.70	7.17
	4H	9.07	9.69	10.16	10.77	12.25	4.41	5.03	5.50	6.11	7.58
	6H	9.48	10.05	10.58	11.13	12.62	4.72	5.29	5.82	6.37	7.86
	8H	9.60	10.14	10.70	11.24	12.72	4.80	5.35	5.91	6.44	7.93
	12H	9.65	10.17	10.76	11.26	12.76	4.84	5.36	5.95	6.45	7.95
4H	2H	6.82	7.44	7.91	8.51	9.99	3.37	3.99	4.46	5.07	6.54
	3H	8.63	9.14	9.73	10.25	11.74	4.70	5.22	5.81	6.32	7.81
	4H	9.31	9.78	10.41	10.88	12.39	5.24	5.71	6.35	6.81	8.32
	6H	9.81	10.21	10.92	11.33	12.84	5.65	6.05	6.76	7.17	8.68
	8H	9.98	10.35	11.09	11.46	12.98	5.77	6.15	6.89	7.26	8.78
	12H	10.06	10.40	11.19	11.53	13.05	5.83	6.17	6.96	7.30	8.82
8H	4H	9.27	9.64	10.38	10.75	12.27	5.51	5.89	6.62	7.00	8.52
	6H	9.82	10.13	10.96	11.28	12.80	6.02	6.33	7.15	7.48	9.00
	8H	10.03	10.30	11.17	11.43	12.97	6.20	6.47	7.34	7.61	9.14
	12H	10.16	10.40	11.30	11.53	13.10	6.31	6.55	7.46	7.68	9.25
12H	4H	9.21	9.56	10.34	10.68	12.20	5.51	5.85	6.64	6.97	8.50
	6H	9.79	10.07	10.94	11.20	12.74	6.06	6.33	7.20	7.47	9.00
	8H	10.00	10.24	11.15	11.37	12.94	6.26	6.50	7.41	7.63	9.20