

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: P923568

Luminaire Tested: DFN2DIP-TR3F0-070D050US940-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P923568
REPORT IS A COMBINATION OF REPORTS P900307 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-070D050US940-FLLFLL
Description: 3 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

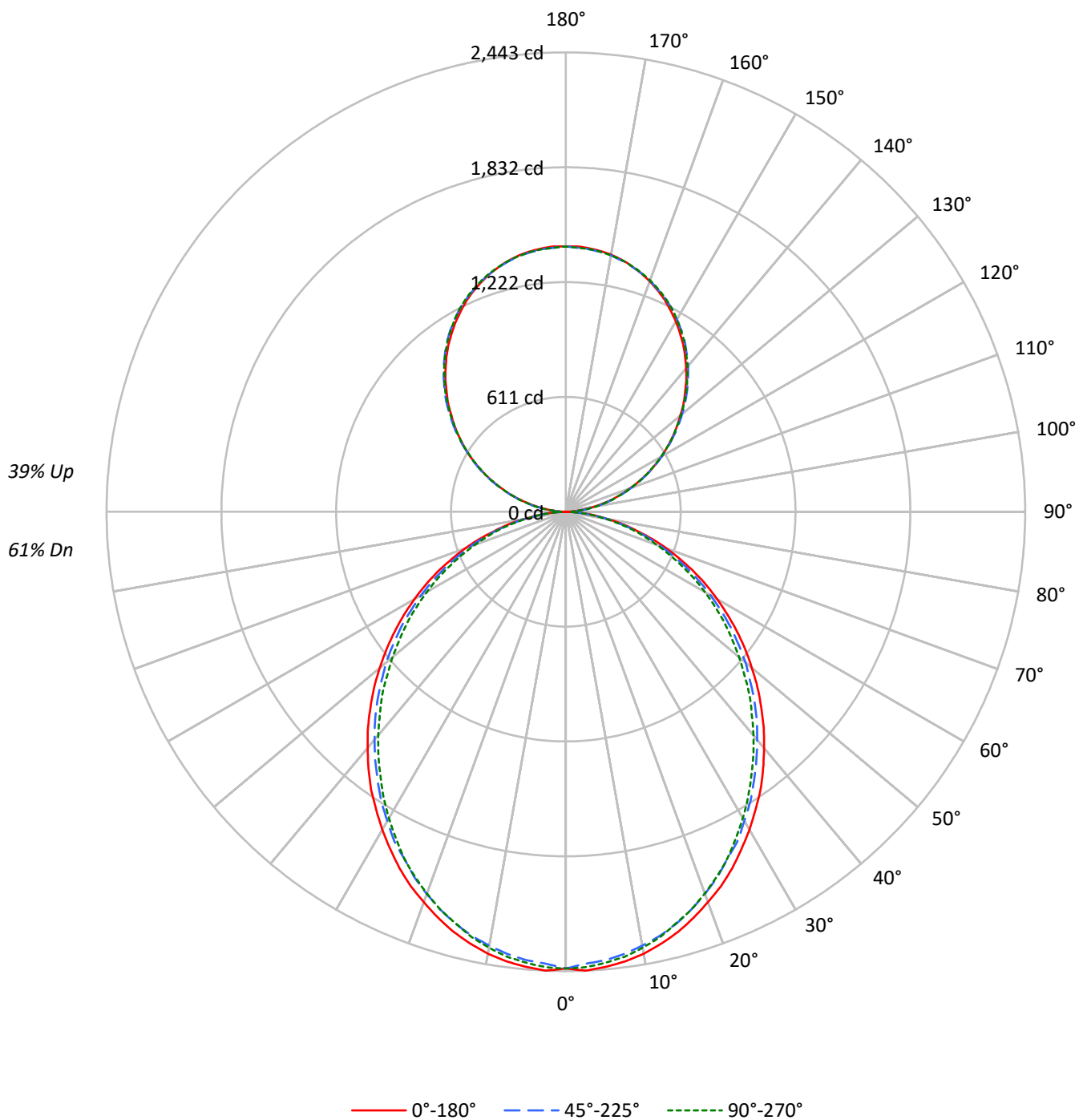
Lumens per Lamp: N/A
Luminaire Lumens: 10125.4 lumens
Efficiency: N/A
Efficacy: 94.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 107.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9971
Total Harmonic Distortion (THDi): 0.049
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P923568

CATALOG NUMBER: DFN2DIP-TR3F0-070D050US940-FLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P923568

CATALOG NUMBER: DFN2DIP-TR3F0-070D050US940-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	110	110	110	110	103	103	103	103	89	89	89	77	77	77	66	66	66
1	100	96	92	88	94	90	86	83	79	76	74	68	66	65	59	57	56
2	91	84	77	72	85	79	73	68	69	65	61	60	57	54	52	49	47
3	83	74	66	60	78	69	63	57	61	56	51	53	49	46	46	43	40
4	76	65	57	51	71	61	54	49	54	48	44	47	43	39	41	37	35
5	70	58	50	44	65	55	47	42	48	42	38	42	38	34	37	33	30
6	65	52	44	38	60	49	42	36	44	38	33	38	34	30	33	30	27
7	60	47	39	33	56	45	37	32	40	34	29	35	30	26	31	27	24
8	56	43	35	30	52	41	33	28	36	30	26	32	27	24	28	24	21
9	52	39	32	27	48	37	30	25	33	27	23	30	25	21	26	22	19
10	48	36	29	24	45	34	28	23	31	25	21	27	23	19	24	20	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3027	3027	3027
5°	3030	2982	3002
10°	3003	2939	2960
15°	2958	2888	2894
20°	2896	2818	2827
25°	2835	2735	2750
30°	2759	2658	2653
35°	2687	2567	2550
40°	2598	2475	2451
45°	2509	2383	2351
50°	2413	2286	2234
55°	2311	2174	2127
60°	2196	2042	2004
65°	2070	1904	1858
70°	1910	1735	1701
75°	1689	1534	1554
80°	1421	1276	1277
85°	1005	840	825

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2509 cd/sqm

TEST NUMBER: P923568

CATALOG NUMBER: DFN2DIP-TR3F0-070D050US940-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	228.6	2.3
10°-20°	643.2	6.4
20°-30°	945.2	9.3
30°-40°	1097.8	10.8
40°-50°	1096.5	10.8
50°-60°	956.1	9.4
60°-70°	706.8	7.0
70°-80°	399.9	3.9
80°-90°	109.6	1.1
90°-100°	87.3	0.9
100°-110°	277.2	2.7
110°-120°	474.5	4.7
120°-130°	624.0	6.2
130°-140°	700.4	6.9
140°-150°	686.8	6.8
150°-160°	576.1	5.7
160°-170°	382.1	3.8
170°-180°	133.5	1.3
0°-30°	1817.0	17.9
0°-40°	2914.9	28.8
0°-60°	4967.4	49.1
0°-90°	6183.6	61.1
90°-120°	838.9	8.3
90°-150°	2850.1	28.1
90°-180°	3942.0	38.9
0°-180°	10125.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2429	2429	2429	2429	2429	
5°	2429	2420	2394	2412	2408	231
15°	2312	2298	2268	2277	2266	651
25°	2093	2074	2034	2039	2034	963
35°	1805	1782	1745	1730	1719	1127
45°	1469	1453	1418	1392	1383	1134
55°	1112	1098	1070	1042	1030	994
65°	750	736	712	691	680	741
75°	392	388	376	362	367	419
85°	96	94	91	84	82	107
90°	1	15	42	39	40	10
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	

TEST NUMBER: P923568

CATALOG NUMBER: DFN2DIP-TR3F0-070D050US940-FLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2428.8	2428.8	2428.8	2428.8	2428.8
2.5°	2442.9	2431.2	2405.5	2428.8	2424.3
5°	2428.8	2419.7	2393.9	2412.4	2408.0
7.5°	2412.4	2398.5	2372.8	2391.7	2386.9
10°	2386.9	2370.5	2342.5	2361.2	2354.2
12.5°	2351.7	2337.9	2309.9	2321.5	2316.8
15°	2312.1	2298.2	2267.7	2277.2	2265.5
17.5°	2263.0	2249.2	2218.7	2230.3	2218.7
20°	2209.2	2195.4	2162.7	2169.6	2160.4
22.5°	2155.7	2134.7	2104.2	2104.2	2099.4
25°	2092.6	2073.9	2034.3	2038.8	2034.3
27.5°	2022.4	2006.1	1975.9	1968.9	1957.2
30°	1952.6	1933.7	1898.8	1891.9	1882.4
32.5°	1877.7	1863.9	1826.4	1812.3	1802.9
35°	1805.4	1782.1	1744.6	1730.5	1718.9
37.5°	1723.6	1702.5	1665.1	1648.8	1637.1
40°	1639.6	1620.8	1583.3	1562.5	1553.1
42.5°	1557.8	1539.0	1501.8	1478.3	1464.4
45°	1469.1	1452.8	1417.6	1392.0	1382.6
47.5°	1382.6	1366.3	1328.8	1303.1	1289.2
50°	1291.5	1279.8	1247.1	1214.4	1202.7
52.5°	1202.7	1186.4	1156.2	1130.4	1114.0
55°	1111.8	1097.7	1069.7	1041.7	1030.0
57.5°	1020.7	1009.0	978.5	950.5	941.1
60°	929.4	920.2	887.6	861.8	854.9
62.5°	840.7	824.4	801.1	777.8	768.4
65°	749.8	735.7	712.4	691.3	679.7
67.5°	656.4	644.5	623.7	607.3	597.9
70°	569.9	560.5	539.4	523.1	513.9
72.5°	481.2	471.8	460.1	443.8	436.8
75°	392.3	387.8	375.9	362.0	366.8
77.5°	313.0	303.5	298.8	291.9	285.0
80°	233.6	231.2	226.5	219.5	214.8
82.5°	158.8	158.8	156.6	147.2	147.2
85°	95.7	93.5	91.2	84.0	81.8
87.5°	42.1	37.5	32.7	25.8	23.3
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



TEST NUMBER: P923568

CATALOG NUMBER: DFN2DIP-TR3F0-070D050US940-FLLFLL

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

TEST NUMBER: P923568

CATALOG NUMBER: DFN2DIP-TR3F0-070D050US940-FLLFLL

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	12.03	13.00	12.89	13.88	14.98	11.60	12.57	12.46	13.45	14.55
	3H	13.69	14.56	14.56	15.45	16.58	13.22	14.09	14.09	14.98	16.11
	4H	14.28	15.10	15.16	15.99	17.13	13.81	14.63	14.69	15.52	16.66
	6H	14.67	15.43	15.57	16.33	17.49	14.20	14.96	15.10	15.86	17.02
	8H	14.78	15.50	15.68	16.42	17.57	14.31	15.03	15.21	15.95	17.10
	12H	14.83	15.52	15.74	16.43	17.61	14.35	15.04	15.26	15.95	17.13
4H	2H	12.50	13.32	13.39	14.22	15.36	12.16	12.98	13.05	13.88	15.02
	3H	14.37	15.05	15.27	15.98	17.13	13.98	14.66	14.88	15.59	16.74
	4H	15.08	15.70	15.99	16.63	17.81	14.68	15.30	15.59	16.22	17.41
	6H	15.59	16.13	16.52	17.08	18.26	15.19	15.73	16.11	16.67	17.85
	8H	15.74	16.24	16.67	17.18	18.38	15.33	15.84	16.26	16.78	17.97
	12H	15.81	16.27	16.76	17.22	18.43	15.40	15.85	16.34	16.81	18.01
8H	4H	15.28	15.78	16.21	16.72	17.92	14.92	15.43	15.85	16.37	17.56
	6H	15.90	16.32	16.86	17.30	18.50	15.55	15.96	16.50	16.94	18.14
	8H	16.12	16.49	17.08	17.46	18.67	15.76	16.13	16.72	17.10	18.31
	12H	16.25	16.58	17.22	17.54	18.80	15.87	16.20	16.84	17.16	18.42
12H	4H	15.27	15.73	16.22	16.68	17.88	14.92	15.38	15.87	16.33	17.53
	6H	15.93	16.30	16.90	17.27	18.49	15.58	15.96	16.55	16.93	18.14
	8H	16.17	16.50	17.14	17.46	18.72	15.82	16.15	16.79	17.11	18.37