

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: P923423

Luminaire Tested: DFN2DIP-TR2F0-050D030US940-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P923423
REPORT IS A COMBINATION OF REPORTS P901758 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-050D030US940-RLLONL
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

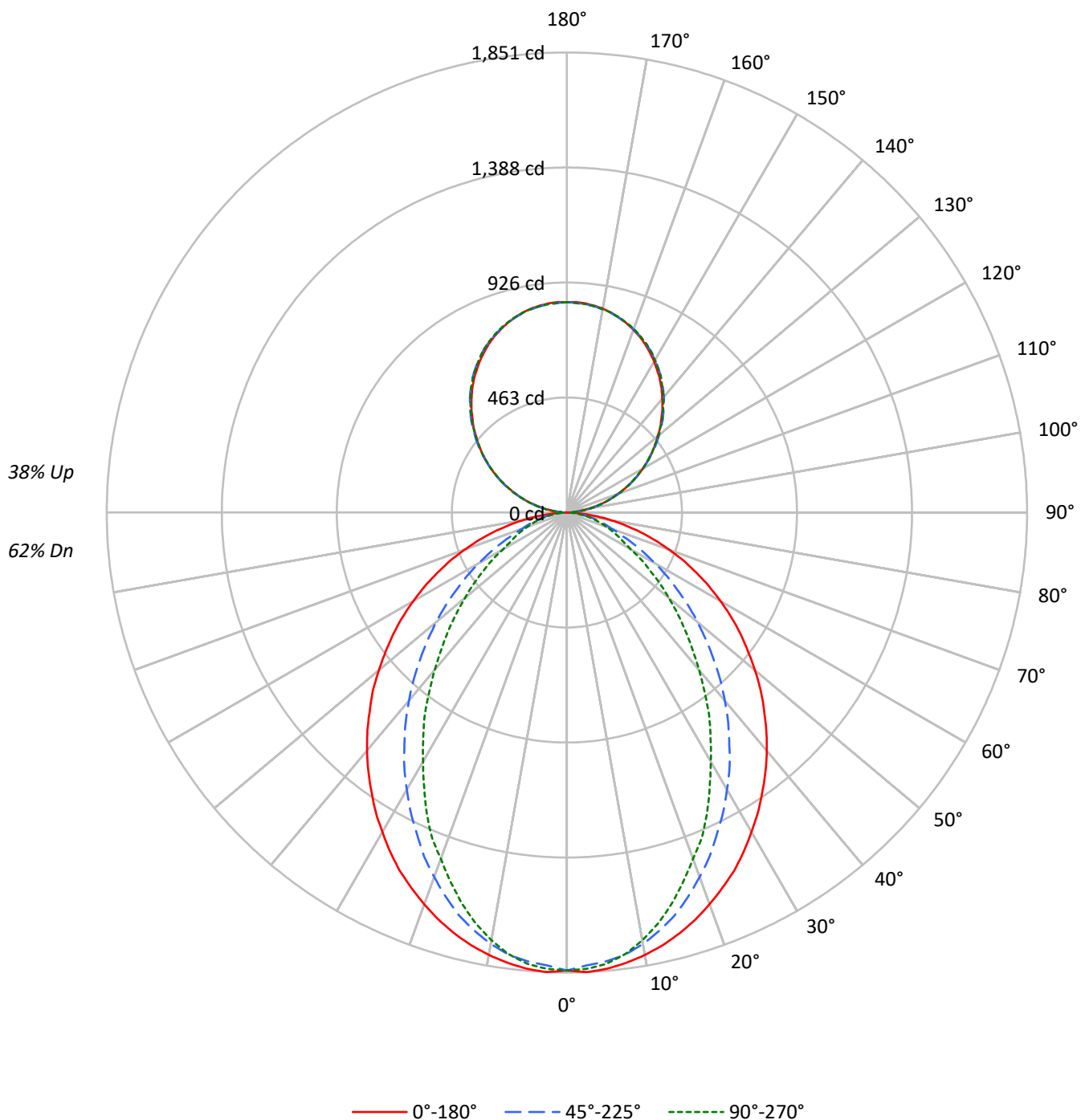
Lumens per Lamp: N/A
Luminaire Lumens: 6157.3 lumens
Efficiency: N/A
Efficacy: 88.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 69.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
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	90	90	90	78	78	78	67	67	67
1	101	97	93	90	94	91	88	85	80	77	75	69	68	66	60	59	58
2	92	85	79	74	86	80	75	70	71	67	63	62	59	56	53	51	49
3	85	75	68	63	79	71	65	60	63	58	54	55	51	48	48	45	43
4	78	67	60	54	73	63	57	51	56	51	46	49	45	42	43	40	37
5	72	60	52	46	67	57	50	44	51	45	41	45	40	37	39	36	33
6	66	54	46	41	62	51	44	39	46	40	36	41	36	32	36	32	29
7	62	49	42	36	58	47	40	35	42	36	32	37	33	29	33	29	26
8	57	45	37	32	54	43	36	31	38	33	28	34	30	26	30	27	24
9	53	41	34	29	50	39	32	28	35	30	26	32	27	24	28	24	22
10	50	38	31	26	47	36	30	25	33	27	23	29	25	22	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4110	4110	4110
5°	4110	4036	4064
10°	4064	3947	3924
15°	4002	3808	3714
20°	3922	3620	3457
25°	3839	3410	3210
30°	3732	3197	2899
35°	3625	2967	2625
40°	3517	2731	2314
45°	3391	2471	2031
50°	3261	2209	1755
55°	3124	1929	1491
60°	2966	1639	1221
65°	2783	1345	1091
70°	2562	1071	977
75°	2283	926	875
80°	1882	752	738
85°	1236	467	520

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3391 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.7	2.8
10°-20°	474.1	7.7
20°-30°	665.6	10.8
30°-40°	725.6	11.8
40°-50°	666.9	10.8
50°-60°	523.7	8.5
60°-70°	340.9	5.5
70°-80°	175.5	2.8
80°-90°	47.2	0.8
90°-100°	52.3	0.9
100°-110°	166.3	2.7
110°-120°	284.7	4.6
120°-130°	374.4	6.1
130°-140°	420.2	6.8
140°-150°	412.1	6.7
150°-160°	345.7	5.6
160°-170°	229.2	3.7
170°-180°	80.1	1.3
0°-30°	1312.4	21.3
0°-40°	2038.0	33.1
0°-60°	3228.6	52.4
0°-90°	3792.2	61.6
90°-120°	503.4	8.2
90°-150°	1710.0	27.8
90°-180°	2365.0	38.4
0°-180°	6157.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1843	1843	1843	1843	1843	
5°	1843	1834	1813	1828	1823	175
15°	1753	1734	1678	1646	1629	494
25°	1591	1538	1427	1359	1334	732
35°	1371	1286	1139	1034	997	858
45°	1121	1009	834	715	675	865
55°	852	722	542	442	410	761
65°	575	440	290	234	228	570
75°	307	190	133	122	120	324
85°	72	37	32	32	32	82
90°	1	9	25	24	24	6
95°	37	44	46	46	44	41
105°	154	156	157	158	158	162
115°	286	290	288	288	286	283
125°	416	422	420	418	417	371
135°	537	545	547	546	544	415
145°	652	658	662	662	660	408
155°	746	748	750	754	752	343
165°	812	811	811	816	812	229
175°	844	842	841	846	842	80
180°	846	846	846	846	846	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1842.7	1842.7	1842.7	1842.7	1842.7
2.5°	1851.0	1842.7	1824.4	1841.1	1837.7
5°	1842.7	1834.4	1812.7	1827.6	1822.7
7.5°	1827.6	1817.8	1794.4	1801.0	1792.6
10°	1807.7	1796.0	1762.7	1757.7	1747.7
12.5°	1782.7	1767.7	1722.6	1712.7	1694.2
15°	1752.7	1734.3	1677.7	1646.0	1629.3
17.5°	1717.6	1691.0	1620.9	1584.2	1557.5
20°	1677.7	1644.2	1560.8	1519.3	1482.5
22.5°	1634.3	1595.9	1499.1	1442.5	1417.6
25°	1590.9	1537.5	1427.4	1359.1	1334.0
27.5°	1539.3	1482.5	1360.8	1282.4	1244.0
30°	1484.3	1420.8	1287.4	1202.4	1157.3
32.5°	1430.8	1354.1	1217.5	1117.3	1075.6
35°	1370.8	1285.8	1139.1	1033.9	997.2
37.5°	1312.4	1220.7	1065.7	950.5	908.9
40°	1250.7	1150.8	988.8	870.5	827.2
42.5°	1187.4	1080.7	912.2	788.7	747.2
45°	1120.7	1008.9	833.8	715.3	675.3
47.5°	1057.3	939.0	758.8	640.3	603.7
50°	987.3	868.9	685.5	570.2	535.4
52.5°	918.8	793.7	615.4	505.3	473.7
55°	852.1	722.0	541.9	441.9	410.3
57.5°	783.8	650.4	477.0	383.6	356.9
60°	713.7	580.3	408.5	323.6	296.9
62.5°	645.4	512.0	350.2	270.2	256.9
65°	575.3	440.2	290.2	233.5	228.5
67.5°	508.6	373.5	233.5	205.1	200.1
70°	438.6	308.5	193.4	176.7	170.0
72.5°	371.9	248.4	161.8	148.5	145.1
75°	306.8	190.0	133.4	121.7	120.1
77.5°	241.8	135.0	105.1	98.4	95.0
80°	181.7	96.8	80.0	73.4	73.4
82.5°	126.7	65.1	55.0	51.6	51.6
85°	71.7	36.6	31.7	31.7	31.7
87.5°	26.8	13.3	13.3	11.7	11.7
90°	0.8	9.2	25.0	23.5	24.3
92.5°	15.8	21.4	22.2	22.9	22.9
95°	37.3	44.4	45.7	45.7	44.4
97.5°	62.0	68.6	71.4	71.4	71.4
100°	90.5	96.4	98.4	98.4	97.7
102.5°	120.6	125.0	127.8	128.6	127.8
105°	153.6	155.6	157.1	158.4	158.4
107.5°	186.2	189.2	189.2	189.8	186.2
110°	217.8	221.9	221.9	221.9	219.9

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	252.0	256.4	255.6	253.5	252.0
115°	285.7	289.7	288.5	287.8	285.7
117.5°	319.1	324.7	321.1	319.1	317.0
120°	352.8	358.4	352.8	352.8	350.4
122.5°	383.3	390.5	386.9	384.9	383.3
125°	415.5	421.9	419.8	417.5	416.8
127.5°	446.8	454.8	452.0	448.9	446.8
130°	476.2	485.4	484.1	482.6	479.7
132.5°	509.1	516.2	516.7	513.2	511.1
135°	537.4	545.3	546.9	546.1	544.0
137.5°	569.0	575.4	576.7	576.2	573.1
140°	596.8	603.2	606.8	606.8	604.0
142.5°	625.4	631.8	633.8	634.6	631.8
145°	652.5	657.5	661.6	662.4	659.6
147.5°	676.7	683.1	686.1	687.4	684.6
150°	701.7	706.1	708.8	711.1	708.8
152.5°	723.9	728.2	731.7	734.6	731.7
155°	746.1	748.1	750.4	753.9	751.7
157.5°	765.2	766.7	768.0	773.1	769.5
160°	782.3	783.8	784.6	788.9	785.9
162.5°	798.1	798.1	798.9	803.7	800.1
165°	811.6	810.8	810.8	815.9	812.3
167.5°	823.9	821.5	821.5	826.6	823.0
170°	833.0	831.0	830.3	835.4	831.0
172.5°	839.4	837.4	836.6	841.7	837.4
175°	844.5	842.5	841.0	846.1	841.7
177.5°	847.3	845.3	843.7	848.1	843.7
180°	846.1	846.1	846.1	846.1	846.1

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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	12.95	13.88	13.80	14.76	15.85	8.93	9.86	9.79	10.74	11.84
	3H	14.61	15.44	15.48	16.33	17.45	10.11	10.95	10.98	11.83	12.96
	4H	15.21	15.99	16.09	16.88	18.02	10.55	11.34	11.44	12.23	13.37
	6H	15.61	16.34	16.51	17.24	18.38	10.87	11.59	11.76	12.49	13.64
	8H	15.73	16.42	16.64	17.34	18.48	10.95	11.64	11.86	12.56	13.70
	12H	15.79	16.45	16.70	17.35	18.53	10.99	11.65	11.90	12.56	13.73
4H	2H	12.97	13.76	13.87	14.65	15.79	9.52	10.31	10.42	11.20	12.34
	3H	14.79	15.44	15.69	16.36	17.51	10.86	11.52	11.77	12.44	13.59
	4H	15.46	16.06	16.38	16.98	18.15	11.40	12.00	12.32	12.92	14.09
	6H	15.96	16.48	16.89	17.42	18.59	11.81	12.32	12.74	13.27	14.44
	8H	16.13	16.61	17.06	17.54	18.73	11.93	12.41	12.86	13.35	14.54
	12H	16.21	16.64	17.16	17.60	18.79	11.99	12.42	12.94	13.38	14.57
8H	4H	15.43	15.91	16.36	16.85	18.04	11.68	12.16	12.61	13.09	14.28
	6H	15.98	16.38	16.94	17.35	18.54	12.18	12.57	13.13	13.55	14.74
	8H	16.18	16.53	17.15	17.50	18.71	12.36	12.71	13.32	13.67	14.88
	12H	16.31	16.62	17.28	17.58	18.83	12.47	12.77	13.43	13.74	14.99
12H	4H	15.39	15.82	16.34	16.78	17.97	11.68	12.11	12.63	13.07	14.26
	6H	15.95	16.30	16.92	17.27	18.48	12.22	12.57	13.19	13.54	14.75
	8H	16.16	16.47	17.13	17.43	18.69	12.42	12.73	13.39	13.69	14.95