

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: P920675

Luminaire Tested: DFN2DIP-TR2F0-040D030US935-RLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P920675
REPORT IS A COMBINATION OF REPORTS P901756 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-040D030US935-RLLONL
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

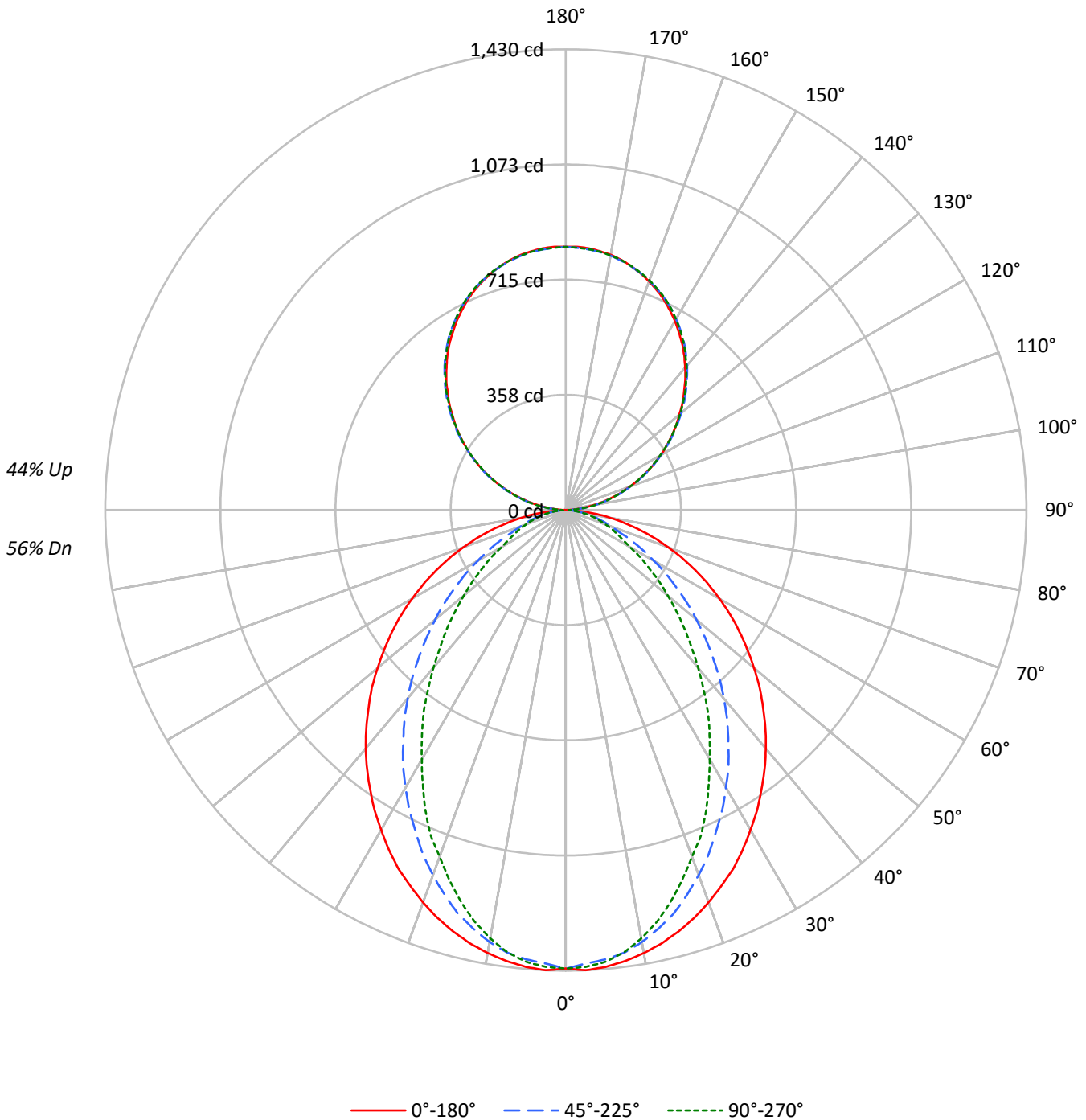
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5213.3 lumens
Efficiency: N/A
Efficacy: 90.2 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: General Diffuse

Input Watts (W): 57.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9933
Total Harmonic Distortion (THDi): 0.066
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			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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	56	56	56	56
1	100	96	92	88	93	89	86	83	77	75	72	66	64	63	55	54	53	48	48	48	48
2	91	84	78	73	85	79	73	69	68	64	61	58	56	53	49	47	46	41	41	41	41
3	84	74	67	62	78	70	63	58	61	56	52	52	49	46	44	42	40	36	36	36	36
4	77	66	59	53	71	62	55	50	54	49	45	47	43	40	40	37	35	31	31	31	31
5	71	59	51	46	66	56	49	43	49	43	39	42	38	35	36	33	30	27	27	27	27
6	65	53	46	40	61	50	43	38	44	38	34	38	34	31	33	30	27	24	24	24	24
7	61	48	41	35	56	46	39	34	40	35	30	35	31	27	30	27	24	22	22	22	22
8	56	44	37	31	52	42	35	30	37	31	27	32	28	25	28	25	22	20	20	20	20
9	53	41	33	28	49	38	32	27	34	28	25	30	25	22	26	23	20	18	18	18	18
10	49	37	30	25	46	35	29	24	31	26	22	28	23	20	24	21	18	16	16	16	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3175	3175	3175
5°	3175	3117	3139
10°	3139	3049	3031
15°	3091	2942	2869
20°	3029	2796	2670
25°	2966	2634	2479
30°	2882	2469	2239
35°	2800	2292	2028
40°	2716	2110	1787
45°	2619	1909	1569
50°	2519	1706	1356
55°	2413	1490	1152
60°	2291	1266	943
65°	2150	1039	843
70°	1979	828	755
75°	1763	716	676
80°	1453	580	570
85°	955	361	402

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2619 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.4	2.6
10°-20°	366.2	7.0
20°-30°	514.2	9.9
30°-40°	560.5	10.8
40°-50°	515.1	9.9
50°-60°	404.5	7.8
60°-70°	263.3	5.1
70°-80°	135.6	2.6
80°-90°	36.9	0.7
90°-100°	50.6	1.0
100°-110°	160.6	3.1
110°-120°	274.9	5.3
120°-130°	361.5	6.9
130°-140°	405.7	7.8
140°-150°	397.9	7.6
150°-160°	333.8	6.4
160°-170°	221.3	4.2
170°-180°	77.4	1.5
0°-30°	1013.8	19.4
0°-40°	1574.2	30.2
0°-60°	2493.9	47.8
0°-90°	2929.7	56.2
90°-120°	486.0	9.3
90°-150°	1651.1	31.7
90°-180°	2284.0	43.8
0°-180°	5213.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1423	1423	1423	1423	1423	
5°	1423	1417	1400	1412	1408	135
15°	1354	1340	1296	1271	1259	382
25°	1229	1188	1103	1050	1030	565
35°	1059	993	880	799	770	663
45°	866	779	644	553	522	668
55°	658	558	419	341	317	588
65°	444	340	224	180	176	441
75°	237	147	103	94	93	251
85°	55	28	24	24	24	64
90°	1	9	24	23	23	5
95°	36	43	44	44	43	40
105°	148	150	152	153	153	156
115°	276	280	278	278	276	273
125°	401	407	405	403	402	358
135°	519	526	528	527	525	401
145°	630	635	639	640	637	394
155°	720	722	724	728	726	332
165°	784	783	783	788	784	221
175°	816	814	812	817	813	77
180°	817	817	817	817	817	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1423.4	1423.4	1423.4	1423.4	1423.4
2.5°	1429.9	1423.4	1409.2	1422.2	1419.5
5°	1423.4	1416.9	1400.2	1411.8	1408.0
7.5°	1411.8	1404.1	1386.1	1391.1	1384.7
10°	1396.4	1387.3	1361.6	1357.6	1350.0
12.5°	1377.1	1365.5	1330.6	1322.9	1308.7
15°	1353.8	1339.6	1295.9	1271.4	1258.6
17.5°	1326.8	1306.1	1252.0	1223.7	1203.1
20°	1295.9	1270.1	1205.7	1173.5	1145.1
22.5°	1262.4	1232.8	1158.0	1114.2	1095.0
25°	1228.9	1187.7	1102.6	1049.9	1030.4
27.5°	1189.0	1145.1	1051.1	990.6	960.9
30°	1146.5	1097.4	994.4	928.8	894.0
32.5°	1105.3	1045.9	940.4	863.1	830.8
35°	1058.9	993.2	879.9	798.7	770.2
37.5°	1013.8	942.9	823.1	734.2	702.1
40°	966.1	888.9	763.9	672.4	638.9
42.5°	917.1	834.7	704.6	609.2	577.1
45°	865.6	779.3	644.1	552.6	521.7
47.5°	816.7	725.3	586.2	494.6	466.3
50°	762.6	671.1	529.4	440.5	413.5
52.5°	709.7	613.1	475.4	390.3	365.8
55°	658.2	557.8	418.6	341.4	316.9
57.5°	605.5	502.4	368.4	296.3	275.7
60°	551.3	448.2	315.6	249.9	229.4
62.5°	498.6	395.5	270.4	208.7	198.5
65°	444.4	340.0	224.1	180.4	176.4
67.5°	393.0	288.5	180.4	158.4	154.5
70°	338.8	238.3	149.4	136.6	131.3
72.5°	287.3	191.9	124.9	114.7	112.1
75°	236.9	146.8	103.1	94.0	92.8
77.5°	186.8	104.3	81.2	76.0	73.4
80°	140.3	74.7	61.7	56.7	56.7
82.5°	97.9	50.3	42.5	39.9	39.9
85°	55.4	28.3	24.5	24.5	24.5
87.5°	20.7	10.2	10.2	9.0	9.0
90°	0.8	8.9	24.1	22.6	23.4
92.5°	15.2	20.7	21.4	22.1	22.1
95°	36.0	42.9	44.1	44.1	42.9
97.5°	59.8	66.2	69.0	69.0	69.0
100°	87.4	93.1	95.1	95.1	94.4
102.5°	116.5	120.7	123.4	124.2	123.4
105°	148.3	150.2	151.7	152.9	152.9
107.5°	179.8	182.7	182.7	183.2	179.8
110°	210.3	214.3	214.3	214.3	212.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	243.3	247.5	246.8	244.8	243.3
115°	275.9	279.7	278.5	277.8	275.9
117.5°	308.1	313.5	310.0	308.1	306.1
120°	340.6	346.0	340.6	340.6	338.4
122.5°	370.1	377.0	373.6	371.6	370.1
125°	401.2	407.3	405.4	403.1	402.4
127.5°	431.4	439.1	436.4	433.4	431.4
130°	459.8	468.6	467.4	466.0	463.2
132.5°	491.5	498.4	498.9	495.5	493.5
135°	518.9	526.5	528.0	527.3	525.3
137.5°	549.4	555.6	556.8	556.4	553.4
140°	576.3	582.5	585.9	585.9	583.2
142.5°	603.9	610.0	612.0	612.8	610.0
145°	630.0	634.9	638.9	639.5	636.9
147.5°	653.4	659.5	662.5	663.7	661.0
150°	677.5	681.7	684.4	686.6	684.4
152.5°	699.0	703.1	706.5	709.3	706.5
155°	720.4	722.3	724.5	728.0	725.8
157.5°	738.8	740.3	741.6	746.5	743.0
160°	755.4	756.8	757.6	761.7	758.8
162.5°	770.6	770.6	771.4	776.0	772.6
165°	783.7	782.9	782.9	787.8	784.4
167.5°	795.5	793.2	793.2	798.1	794.7
170°	804.3	802.4	801.7	806.6	802.4
172.5°	810.5	808.6	807.8	812.7	808.6
175°	815.5	813.5	812.0	816.9	812.7
177.5°	818.1	816.1	814.7	818.9	814.7
180°	816.9	816.9	816.9	816.9	816.9



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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	11.59	12.48	12.50	13.40	14.58	7.57	8.46	8.48	9.38	10.56
	3H	13.25	14.04	14.17	14.97	16.18	8.75	9.54	9.67	10.47	11.68
	4H	13.84	14.59	14.78	15.53	16.74	9.19	9.94	10.13	10.88	12.09
	6H	14.25	14.94	15.20	15.88	17.11	9.50	10.19	10.45	11.13	12.36
	8H	14.37	15.02	15.32	15.98	17.21	9.59	10.24	10.54	11.20	12.43
	12H	14.42	15.04	15.38	16.00	17.25	9.62	10.25	10.58	11.20	12.45
4H	2H	11.61	12.36	12.55	13.30	14.51	8.16	8.91	9.10	9.85	11.06
	3H	13.42	14.04	14.37	15.01	16.24	9.50	10.12	10.45	11.09	12.32
	4H	14.10	14.66	15.06	15.62	16.88	10.03	10.60	11.00	11.56	12.82
	6H	14.59	15.08	15.56	16.06	17.32	10.44	10.93	11.41	11.91	13.17
	8H	14.75	15.21	15.73	16.19	17.46	10.56	11.01	11.54	11.99	13.26
	12H	14.84	15.25	15.83	16.24	17.52	10.62	11.03	11.61	12.02	13.30
8H	4H	14.06	14.52	15.04	15.50	16.77	10.30	10.76	11.28	11.74	13.01
	6H	14.61	14.98	15.61	16.00	17.27	10.80	11.18	11.80	12.20	13.47
	8H	14.81	15.14	15.82	16.15	17.43	10.98	11.31	11.99	12.32	13.61
	12H	14.93	15.22	15.94	16.23	17.56	11.09	11.38	12.10	12.38	13.72
12H	4H	14.02	14.43	15.01	15.42	16.70	10.31	10.72	11.30	11.71	12.99
	6H	14.58	14.91	15.59	15.92	17.21	10.85	11.18	11.86	12.19	13.47
	8H	14.79	15.08	15.80	16.08	17.41	11.04	11.34	12.06	12.34	13.67